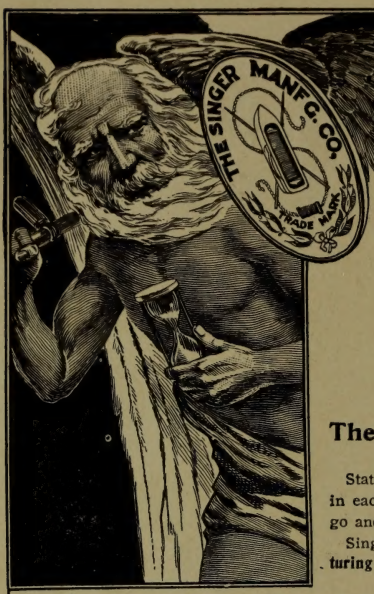
THE SINGER ALMANAC 1905

PUBLISHED BY

THE SINGER MANUFACTURING CO.

164 Princess Street, Kingston, Ontario

F5cb. 1904 .S617



TEST OF TIME

The Advantage of Permanency

Statistics show that less than Five merchandise dealers in each One Hundred are successful. They come and go and are forgotten.

Singer machines are sold only by **The Singer Manufacturing Co.**, dealing directly from maker to user.

The Singer Company is permanent and its representatives are always at hand to care for Singer Machines.

This is an important consideration to the purchaser of a sewing-machine.

Many a woman has experienced the annoying loss of a small part of the sewing-machine obtained through some dealer selling "cheap" machines, but who is totally unable to furnish duplicate parts therefor and is likely to be gone in a short time.

The Singer Sewing-Machine has been made for more than 50 years and is still being made at the rate of more than

ONE MILLION MACHINES YEARLY.

It is constantly improved and represents the best skill in the art.

The sure means of avoiding trouble and loss is to GET A SINGER, thus you deal with the leading sewing-machine manufacturers of the world, having an unequaled experience and an unrivaled reputation—the strongest guarantee of excellence of product and fair dealing directly in its sale.

SOLD ON INSTALMENTS. **OLD MACHINES EXCHANGED.**

The Singer Manufacturing Co.

SALESROOMS IN EVERY CITY.

THE

SINGER ALMANAC

1905

The EDITH *and* LORNE PIERCE
COLLECTION *of* CANADIANA

Queen's University at Kingston

THE SINGER MANUFACTURING CO.

1905

Entered according to Act of the Parliament of Canada, in the year one thousand nine hundred and four, by THE SINGER MANUFACTURING CO., TORONTO, ONT., at the Department of Agriculture.

The Singer Almanac

For 1905

ASTRONOMICAL CALCULATIONS

Prepared by Berlin H. Wright, Penn Yan, N. Y.

ECLIPSES

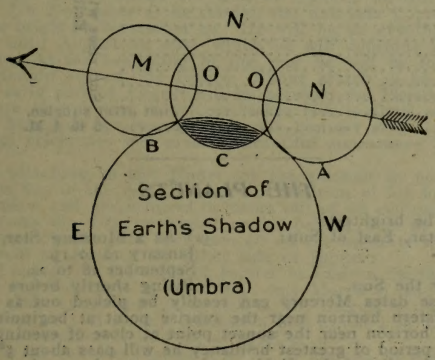
There will be four eclipses in 1905, two of the Sun and two of the Moon, as follows:

I. A Partial Eclipse of the Moon, February 19. Invisible in the United States, except in the Pacific possessions.

II. An Annular Eclipse of the Sun, March 6. Invisible in the United States.

III. A Partial Eclipse of the Moon, August 14-15. Visible in the United States as follows:

	Inter-Colonial Standard Time. H.M.	Eastern Standard Time. H.M.	Central Standard Time. H.M.	Mountain Standard Time. H.M.	Pacific Standard Time. H.M.
Moon enters Light Shadow or Penumbra	9 8 PM	8 8 PM	7 8 PM	6 8 PM	5 8 PM
Moon enters Dark Shadow or Umbra	10 39 "	9 39 "	8 39 "	7 39 "	6 39 "
Middle or Greatest Eclipse	11 41 "	10 41 "	9 41 "	8 41 "	7 41 "
Moon leaves Dark Shadow or Umbra	0 43 AM	11 43 "	10 43 "	9 43 "	8 43 "
Moon leaves Light Shadow or Penumbra	2 17 "	1 17 AM	0 17 AM	11 17 "	10 17 "



The size of the eclipse will be 3.4 digits, the Moon's apparent diameter being taken as 12 digits. The P. M. times occur on the evening of the 14th and the A. M. on the morning of the 15th. As shown in the figure, the Moon will pass from West to East through the northern portion of the Earth's shadow, causing the eclipse to fall upon the southern limb of the Moon. The first contact of the Moon with the dark shadow, or umbra, will take place at A and the last at B, the greatest eclipse being at C. The diminution of light from the Moon when it is in the penumbra, or light shadow, is so slight as to be barely noticeable, and even after it enters the umbra the outline of the Moon can be readily followed.

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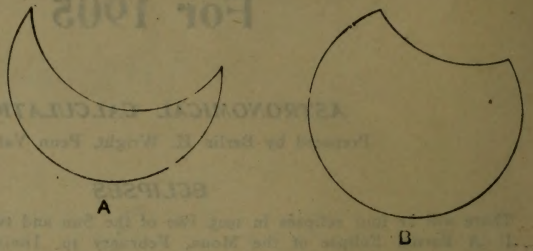
ECLIPSES for 1905—Continued

IV. A Total Eclipse of the Sun, August 30. Visible in the Central and Eastern States as a partial eclipse on the northern limb. The path of the belt of totality lies in the Dominion



Figs. A and B shows the Sun as it will appear generally in the Northern States and Southern States, respectively, at the time of greatest eclipse.

of Canada, and crosses the Atlantic Ocean, passes through Spain, the Mediterranean Sea, Northern Africa, Red Sea and Arabia. The western boundary of the eclipse in the United States is, approximately, a line from Austin, Texas, through Denver, Colo., and thence northward along the foothills of the Rocky Mountains. West of this line no eclipse will be seen, and east of it the Sun will rise more or less eclipsed to the Atlantic coast as far north as Washington, D. C., and thence to Rochester, N. Y., and northward. The Sun will rise at the time of greatest eclipse along a line from near Tallahassee, Fla., to St. Louis, St. Paul and Lake of the Woods.

The following is the Standard Time of the eclipse and size:

	Eclipse Begins. H.M.	Eclipse Ends. H.M.	Size. Digits.
Boston, Mass.	5 43 A.M.	7 38 A.M.	9
New York and Brooklyn	5 40 "	7 28 "	7
Washington, D. C.	5 37 "	7 23 "	6
Charleston, S. C.	Sun rises with Eclipse on.	7 12 "	3
New Orleans, La.		6 3 "	2
St. Louis, Mo.		6 17 "	6
Chicago, Ill.		6 28 "	8
Buffalo, N. Y.		7 27 "	8
Pittsburg, Pa.		7 22 "	7
Detroit, Mich.		6 25 "	9
Baltimore, Md.		7 22 "	7
Cleveland, O.		6 22 "	8
Cincinnati, O.		6 20 "	7
Milwaukee, Wis.		6 25 "	8
Philadelphia, Pa.	Just after sunrise.	7 25 "	7
Rochester, N. Y.	5 45 A.M.	7 31 "	8

THE PLANETS

MERCURY will be brightest:

(1) As an Evening Star, East of Sun:
March 23 to 28.
December 1 to 3.
Setting shortly after the Sun.

(2) As a Morning Star, West of Sun:
January 12 to 15.
September 18 to 22.
Rising shortly before the Sun.

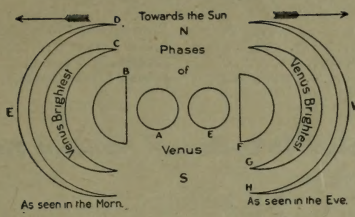
On or about these dates Mercury can readily be picked out as a particularly *red, steady* star in the eastern horizon near the sunrise point at beginning of morning twilight, and in western horizon near the sunset point at close of evening twilight.

At his September period of greatest brilliancy he will pass about 5° below the brilliant star Regulus, in the handle of the Sickle, and must not be confounded with that star. At his December term of greatest brilliancy the Milk Maid's Dipper, in the Milky Way, will be seen just above the planet, which is in the constellation Sagittarius, the Archer.

VENUS will be brightest March 21 as an evening star and again on June 2 as a morning star. About the middle of January she will be in the constellation Aquarius and about 8° south of the Y-figure which is situated on the equator of the Heavens and the northern boundary of the Zodiac. On July 10 she will be near the boundary line between the constellations Aries and Taurus, and between the two most conspicuous asterisms in the heavens—the Pleiades, or 7-stars, and the Hyades. On August 1 she will be very close to the great Crab Nebula, near the tip of the right horn of the Bull and about midway between the beautiful Capella 25° N. and the Belt of Orion on the S.

(See table of rising, southing, setting of the planets.)

Venus presents to us at different times all the phases shown by the Moon, being Full at superior conjunction, March 1, 1906; New at inferior conjunction, April 27, and at the quarters when at her elongation, February 14. These phases may be seen with a fieldglass or small telescope, as seen in the annexd figure:



The positions the planet will have with reference to the Sun when she will show the above phases and differences in apparent diameter are as follows:

A.—Fifteen days after superior conjunction—March 1, 1906.
B.—At greatest elongation West—July 6, 1905.
C.—When brightest—March 21, 1905.
D.—Just after superior conjunction—May 1, 1905.
E.—Fifteen days before superior conjunction—February 1, 1906.
F.—At greatest elongation East—February 14, 1905.
G.—When brightest—June 2, 1905.
H.—Just before inferior conjunction—April 20, 1905.

On September 26 Venus will be occulted by the Moon. Visible only in extreme southern latitudes. In the United States it will be an extremely close approach, the planet being only the apparent diameter of the Moon north of that luminary.

MARS will be brightest at opposition, May 8, at which time he will rise at sunset, pass the meridian at midnight and set at sunrise, being an evening star. Mars will be a morning star until January 26, after which he will be an evening star. On December 30 Mars will be occulted by the Moon in the early morning at 5:31, Washington mean time. The superior planets are all at their brightest at the time of opposition. When Mars is nearest the Sun at or about the time the Earth is farthest from the Sun, he will be 30,000,000 miles nearer to us than when the conditions are reversed. In 1892 these favorable conditions obtained, and will again occur in 1907, when renewed efforts to learn more of Martian matters will doubtless be made. Mars will traverse the constellations of the Zodiac as follows: Early in January he will be at the eastern end of Virgo, near the brilliant Spica; enters Libra January 15, and will continue in it until August 21, when he will pass over into Scorpio, being very close to and north of the noted red star Antares on the 1st to the 5th of September. On the 8th of October he passes into Sagittarius in the Milky Way, and on the 20th of October he will be just above the Milk Maid's Dipper. On November 21 he crosses the line into Capricornus.

JUPITER will be brightest November 24. He will be an evening star until May 4, then a morning star until August 29, after which he will continue an evening star the remainder of the year. At the beginning of the year he will be found in the eastern portion of the constellation Pisces, the Fishes. About March 10 he crosses into Aries, the Ram, and in the early part of August will be between the Pleiades (7-stars) and the Hyades, following close after Venus, which overtakes him in their march eastward past the stars and passes him July 4, leaving her bulky consort 2° 31′ to the north. This aggregation of celestial celebrities will make a beautiful appearance in the mornings of midsummer.

The chief interest attaching to this planet for the amateur in possession of a small telescope or field glass lies in the rapid changes in position of his four large moons, as they pass into his shadow and are eclipsed or come out of an eclipse, bursting suddenly into view, or pass across his face in transit or go behind him in occultation. Sometimes all will be grouped on one side, and then all on the opposite side. On the following dates the moons will be grouped on either side of Jupiter:

All the moons will appear on the right of Jupiter in Eastern Standard Time: January 14 and 30, at 8:38 p. m.; February 13, at 8:08 p. m.; March 11 and 25, at 7:38 p. m.; June 14, at 3:38 a.m.; July 13, 20 and 30, at 3:08 a. m.; August 3 and 17, at 2:38 a. m.; September 18, 21 and 25, at 1:38 a. m.; October 9 and 23, at 1:08 a. m.; November 14 and 28, at 0:08 a. m.; December 11 and 30, at 11:08 p. m.

Upon the left hand as follows: January 3, 17, 20 and 24, at 8:38 p. m.; February 3, 7 and 25, at 8:08 p. m.; March 5 and 19, at 7:38 p. m.; June 5, 6 and 19, at 3:38 a. m.; July 10 and 24, at 3:08 a. m.; August 9 and 29 at 2:38 a. m.; September 12 at 1:38 a. m.; October 19, at 1:08 a. m.; November 2, 16, 22 and 23, at 0:08 a. m; December 7 and 21, at 11:08 p. m.

On some of these occasions the observer will not see all of the four bright moons on the side indicated, as in some instances one may be in eclipse or in occultation at the minute indicated, but in all cases the opposite side of the planet will be free of moons.

SATURN will be the brighest August 23; is an evening star until February 12, then a morning star until May 24, and after that an evening star again for the remainder of the year. A telescope of two or three inch objective is needful to see the rings at all satisfactorily. Throughout the year he will be found in the eastern part of Capricornus, the Goat, and in western Aquarius, the Water Bearer.

URANUS will be brightest June 24, when it will be possible to see the planet with the naked eye, but it will only appear as a very dim star in the absence of the Moon, and by knowing *exactly* where to look for it.

NEPTUNE will be brightest December 31, but even then can only be seen with the best of telescopes and an astronomer to direct it.

CHRONOLOGICAL CYCLES

Dominical Letter	A	Roman Indiction	3
Epact	24	Julian Period	6618
Lunar Cycle (Golden Number)	6	Dionysian Period	233
Solar Cycle	10	Jewish Lunar Cycle	4

THE SEASONS—Eastern Standard Time

		D.H.M.		D.H.M.
Winter begins,	1904, Dec.	22 1 1	A. M. and lasts	89 0 48
Spring "	1905, Mch.	21 1 49	A. M. " "	92 19 54
Summer "	1905, June	21 9 43	P. M. " "	93 14 39
Autumn "	1905, Sept.	23 0 22	P. M. " "	89 18 34
Winter "	1905, Dec.	22 6 56	A. M. Trop. Yr.	365 5 55

CHURCH DAYS AND MOVABLE FEASTS

Septuagesima Sunday	Feb.	19
Sexagesima "	"	26
Quinquagesima "	Mch.	5
Shrove Tuesday	"	7
Ash Wednesday (Lent Beg.)	"	8
Quadragesima Sunday	"	12
Mid Lent Sunday	April	2
Passion Sunday	"	9
Palm "	"	16
Good Friday	"	21
Easter Sunday	"	23
Low Sunday	"	30
Rogation Sunday	May	28
Ascension Thursday	June	1
Whit Sunday (Pentecost)	"	11
Trinity Sunday	"	18
Corpus Christi	"	22
Advent Sunday	Dec.	3

"BUILT LIKE A WATCH"

The best inventive talent on both sides the Atlantic is constantly used to improve Singer Sewing-Machines; thus, they are always "up-to-date." Only the best materials and the most modern automatic machinery are used in the manufacture of

SINGER SEWING-MACHINES

Thermometers.

COMPARATIVE SCALES.

Reaumur, 80°.	Centi-grade, 100°.	Fahren-heit, 212°.	
76	95	203	Water
72	90	194	Boils at
68	85	185	Sea Level
63.1	78.9	174	
60	75	167	Alcohol
56	70	158	Boils.
52	65	149	
48	60	140	
44	55	131	
42.2	52.8	127	Tallow
40	50	122	Melts.
36	45	113	
33.8	42.2	108	
32	40	104	
29.3	36.7	98	Blood H't.
28	35	95	
25.8	32.2	90	
24	30	86	
21.3	26.7	80	
20	25	77	
16	20	68	
12.4	15.3	60	Temp'ate
10.2	12.8	55	
8	10	50	
5.8	7.2	45	
4	5	41	
1.3	1.7	35	
0	0	32	Water
— 0.9	— 1.1	30	Freezes.
— 4	— 5	23	
— 5.3	— 6.7	20	
— 8	—10	14	
— 9.8	—12.2	10	
—12	—15	5	
—14.2	—17.8	0	Zero Fahr
—16	—20	— 4	
—20	—25	—13	
—24	—30	—22	
—28	—35	—31	
—32	—40	—40	

Rules for Foretelling the Weather.

ADAPTED FOR USE WITH ANEROID BAROMETERS.

A RISING BAROMETER.

A rapid rise indicates unsettled weather.

A gradual rise indicates settled weather.

A rise with dry air and cold increasing in Summer indicates wind from the northward; and if rain has fallen, better weather may be expected.

A rise with moist air and a low temperature indicates wind and rain from the northward.

A rise with southerly winds indicates fine weather.

A STEADY BAROMETER.

With dry air and seasonable temperature indicates a continuance of very fine weather.

A FALLING BAROMETER.

A rapid fall indicates stormy weather.

A rapid fall with westerly wind indicates stormy weather from the northward.

A fall with a northerly wind indicates storm, with rain and hail in Summer, and snow in Winter.

A fall with increased moisture in the air, and heat increasing, indicates wind and rain from the southward.

A fall with dry air and cold increasing in Winter indicates snow.

A fall after very calm and warm weather indicates rain, with squally weather.

The barometer rises for northerly winds, including from northwest by north to the eastward for dry, or less wet weather, for less wind, or for more than one of these changes, except on a few occasions, when rain, hail or snow comes from the northward with strong wind.

The barometer falls for southerly wind, including from southeast by south to the westward, for wet weather, for stronger wind or for more than one of these changes, except on a few occasions, when moderate wind, with rain or snow, comes from the northward.

The above printed rules are in use by the Seawanhaka-Corinthian Yacht Club of New York.

DURATION OF DIFFERENT KINDS OF WEATHER IN THE SEVERAL STORMS—VICINITY OF NEW YORK.

Critical Winds—	Clear Hours.	Cloudy Hours.	Rain Hours.	Clearing Hours.
South to Southwest.	9	8	8.3	14
South to Southeast.	14	13.4	15.6	15.4
East to Northeast..	20	17.6	31	20.6

THE VALUE OF REPUTATION

A reputation based on half a century's experience, dealing directly with the women of the family all over the world, is unique, and stimulates a worthy pride. The Singer Manufacturing Company aims to maintain its well-earned reputation for fair dealing during all time. It is permanent, its sales-rooms are in every city of the world, and parts and supplies for its machines can always be easily obtained.

Herschel's Weather-table for foretelling the Weather throughout each year, forever.

This Table and the accompanying remarks are the result of many years' observation, the whole being constructed on a due consideration of the attraction of the Sun and Moon, in their several positions respecting the Earth, and will, by simple inspection, show the observer what kind of weather will most probably follow the entrance of the Moon into any of its quarters, and that so near the truth as to be seldom or never found to fail.

If New Moon, 1st Quarter, Full Moon or Last Quarter, happens—	IN SUMMER.	IN WINTER.
Between midnight and 2 o'c.	Fair	Frost unless wind Southwest.
" 2 and 4 morning..	Cold and showers	Snow and stormy.
" 4 and 6 " ..	Rain	Rain.
" 6 and 8 " ..	Wind and rain	Stormy.
" 8 and 10 " ..	Changeable	Cold rain if wind West, snow if East.
" 10 and 12 " ..	Frequent showers	Cold and high wind.
" 12 and 2 afternoon.	Very rainy	Snow or rain.
" 2 and 4 " ..	Changeable	Fair and mild.
" 4 and 6 " ..	Fair	Fair.
" 6 and 8 " ..	Fair if wind Northwest	Fair and frosty if wind North or Northeast.
" 8 and 10 " ..	Rainy if South or Southwest.	Rain or snow if South or Southwest.
" 10 and midnight	Fair	Fair and frosty.

OBSERVATIONS.—1. The nearer the time of the Moon's change, first quarter, full and last quarter are to midnight the fairer will be the weather during the next seven days. 2. The space for this calculation occupies from ten at night till two next morning. 3. The nearer to midday or noon the phases of the Moon happens, the more foul or wet weather may be expected during the next seven days. 4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to the Summer, though they affect Spring and Autumn nearly in the same ratio. 5. The Moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, i. e., from four to ten, may be followed by fair weather; but this is mostly dependent on the wind, as is noted in the table. 6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of Autumn, the whole of Winter and the beginning of Spring, yet in the main the above observations will apply to those periods also. 7. To prognosticate correctly, where the wind is concerned, a vane should be in sight.

But One Standard of Quality

There are three distinct types of Singer Sewing-Machines for family use, but there is only one standard of quality and that is

The Best

There is a wide range of prices, depending on the style of cabinet work, but whether the price be the lowest or the highest, the working quality of the machine is the same and has been fully tested.

EXPLANATION OF THE CALENDAR PAGES.

Time.

Map of the Standard Time Belts.

All the calculations in The Singer Almanac are based upon mean or clock time unless otherwise stated. The Sun's rising and setting are for the upper limb, corrected for parallax and refraction. In the case of the Moon no correction is needed, as in the Sun, for "parallax and refraction"; with her they are of an opposite nature and just balance each other. The figures given, therefore, are for the Moon's centre on a true horizon, such as the ocean or a large plain affords.

The calculations in each of the geographical divisions of each calendar page will apply with sufficient accuracy to all places in the contiguous North American zones indicated by the headings of the divisions. This statement is based on actual, or Greenwich, time. See table on next page.

STANDARD TIME.

For the convenience of the railroads and business in general, a standard of time was established by mutual agreement in 1883, and it is by this method of calculation that trains are now run and local time is regulated. In accordance with this system the United States, extending from 65° to 125° west longitude, is divided into four time sections, each of 15° of longitude, exactly equivalent to one hour (7½° or 30m. on each side of a meridian), commencing with the 75th meridian. The first or eastern section includes all territory between the Atlantic Coast and an irregular line

the fact that in the same latitude, or in the same line running due east and west, the Sun and Moon rise and set at almost the same moment of local or mean time, the difference in extremes being so slight as to be of no importance for ordinary purposes, except in the case of the Moon's rising, southing and setting, when 6m. for Pacific Coast points and 3m. for Mississippi River Valley region, including Chicago, etc., must be added, or 2m. for each hour of longitude.

The heavy dotted lines show the arbitrary divisions of time in the United States. The plus and minus marks on either side of the meridian lines show whether it is necessary to add to or subtract from the standard time of points east or west of these lines, to arrive at

drawn from Buffalo to Charleston, S. C., the latter city being its southernmost point. The second or central section includes all the territory between this eastern line and another irregular line extending from Bismarck, N. D., to the mouth of the Rio Grande. The third or mountain section includes all the territory between the last named line and nearly the western borders of Idaho, Nevada and Arizona. The fourth or Pacific section includes all the territory of the United States between the boundary of the mountain section and the Pacific Coast. Inside of each of these sections standard time is uniform, and the time of each section differs from that next to it by exactly one hour.

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
New Moon, . . .	5th day, 1h 17m PM	5th day, 0h 17m PM	5th day, 10h 17m AM
First Quarter, . .	13th day, 3h 11m PM	13th day, 2h 11m PM	13th day, 0h 11m PM
Full Moon, . . .	21st day, 2h 14m AM	21st day, 1h 14m AM	20th day, 11h 14m PM
Last Quarter. . .	27th day, 7h 20m PM	27th day, 6h 20m PM	27th day, 4h 20m PM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises	Sun sets	Mo'n rises & sets	Sun slow	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises	Sun sets	Mo'n rises & sets	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises	Sun sets	Mo'n rises & sets
			H. M.	H. M.	H. M.	M. S.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.
A	Twilight Beg. 5:52 Ends 6:16	**1st Sunday After Christmas.**								Day's Length 9h. 12m.			**1**
1	**Sun**	**Circumcision**	7 03	5 05	2 45	3 38	7 25	4 43	2 56	♎ 24	7 28	4 40	2 59
2	Mon	Meteors	7 03	5 06	3 47	4 6	7 25	4 44	4 01	♏ 8	7 28	4 41	4 04
3	Tues	☽ **Lowest** ☋	7 03	5 06	4 49	4 34	7 25	4 45	5 05	22	7 28	4 42	5 09
4	Wed	Alpheratz sets 1 M	7 03	5 07	5 46	5 2	7 25	4 46	6 03	♐ 5	7 28	4 43	6 08
5	Thur	Twelfth Night	7 03	5 08	sets	5 29	7 25	4 47	sets	18	7 28	4 44	sets
6	Fri	Epiphany	7 03	5 09	6 20	5 56	7 25	4 48	6 03	♑ 1	7 28	4 45	6 02
7	Sat	8) Meteors	7 03	5 10	7 16	6 23	7 25	4 49	7 03	13	7 28	4 46	7 00
A	Twilight Beg. 5:51 Ends 6:22	**First Sunday After Epiphany.**								Day's Length 9h. 19m.			**2**
8	**Sun**	♄ 3° S. of ☽	7 03	5 10	8 14	6 48	7 25	4 50	8 02	25	7 28	4 47	7 59
9	Mon	♀ 2° S. of ☽	7 03	5 11	9 06	7 13	7 24	4 51	8 59	♒ 8	7 27	4 48	8 58
10	Tues	(12) □ ♃ ☉ E.	7 03	5 12	9 59	7 38	7 24	4 52	9 55	19	7 27	4 49	9 54
11	Wed	☽ Apogee	7 02	5 13	10 51	8 02	7 24	4 53	10 50	♓ 1	7 27	4 50	10 50
12	Thur	(10) ☽ at ♉	7 02	5 14	11 45	8 26	7 24	4 54	11 48	13	7 27	4 51	11 48
13	Fri	♃ 2° N. of ☽	7 02	5 15	moin	8 49	7 23	4 55	morn	25	7 27	4 52	morn
14	Sat	Algenib sets 11:25E	7 02	5 16	0 37	9 11	7 23	4 56	43	♈ 7	7 26	4 53	0 44
A	Twilight Beg. 5:49 Ends 6:30	**2d Sunday After Epiphany.**								Day's Length 9 h. 28m.			**3**
15	Sun	Meteors	7 02	5 16	1 30	9 32	7 23	4 57	39	19	7 26	4 54	1 41
16	Mon	Betelgeuse So. 10E	7 02	5 17	2 26	9 53	7 22	4 58	2 38	♉ 2	7 26	4 55	2 41
17	Tues	Aldebaran oc. by ☽	7 02	5 18	3 21	10 13	7 22	4 59	3 36	15	7 25	4 56	3 40
18	Wed	☽ **Highest** ♋	7 02	5 19	4 19	10 33	7 21	5 01	4 36	28	7 25	4 57	4 40
19	Thur	Gen. R.E. Lee born	7 01	5 20	5 14	10 52	7 21	5 02	5 32	♊ 12	7 24	4 58	5 36
20	Fri	Auriga So. 10 E.	7 01	5 21	rises	11 10	7 20	5 03	rises	26	7 23	4 59	rises
21	Sat	Argus So. 10 E.	7 01	5 22	6 07	11 27	7 20	5 0	5 53	♋ 11	7 22	5 01	5 50
A	Twilight Beg. 5:46 Ends 6:37	**3d Sunday After Epiphany.**								Day's Length 9h. 42m.			**4**
22	**Sun**	☿ Gr. El. W.	7 01	5 23	7 1	1 4	7 19	5 05	7 03	2	7 21	5 03	7 01
23	Mon	☽ Perigee	7 00	5 24	8 2	1 59	7 18	5 07	8 13	♋ 10	7 21	5 04	8 12
24	Tues	Gemini So. 10 E.	7 00	5 25	9 2.	2 14	7 18	5 08	9 22	24	7 20	5 06	9 21
25	Wed	Moon at ♋ (23)	7 00	5 26	10 3	2 2	7 17	5 09	10 3	♌ 9	7 19	5 07	10 34
26	Thur	□ ♂ ☉ W.	6 59	5 27	11 30	12 41	7 16	5 10	11 41	23	7 18	5 08	11 43
27	Fri	♂ 3° S. of ☽	6 59	5 28	morn	12 54	7 16	5 11	morn	♎ 7	7 17	5 09	morn
28	Sat	Dog Star S. 10 E.	6 59	5 29	0 38	13 00	7 15	5 13	47	21	7 16	5 11	0 49
A	Twilight Beg. 5:42 Ends 6:44	**4th Sunday After Epiphany.**								Day's Length 9h. 56m.			**5**
29	Sun	Adara So. 9 E.	6 58	5 30	1 42	13 6	7 14	5 14	1 54	♌ 5	7 16	5 12	1 57
30	Mon	♀ in ♋	6 57	5 31	2 42	13 21	7 13	5 15	2 57	18	7 15	5 13	3 00
31	Tues	☽ **Lowest** ☋	6 56	5 32	3 36	13 30	7 12	5 16	3 56	♍ 1	7 14	5 15	4 00

MOON'S PHASES.

The following is the table of times, based upon the meridian used by the United States and Canada:

Name of Time.	Degrees.	Central Meridian. From Greenwich.	Nearest Place.
Intercolonial	60	4 hours west.	About 3⅛° east of Halifax, N. S.
Eastern	75	5 hours west.	Between New York and Philadelphia.
Central	90	6 hours west.	St. Louis and New Orleans.
Mountain	105	7 hours west.	Denver, Colo.
Pacific	120	8 hours west.	1½° east of Sacramento, Cal.
Sitka	135	9 hours west.	¼° east of Sitka, Alaska.
Tahiti	150	10 hours west.	½° west of the island of Tahiti.
Hawaiian	157½	10 h. 31 m. west.	Near centre of Molokai.

TIME OF TRANSIT OF MAILS TO FOREIGN CITIES.

From New York to	Days	Miles	From New York to	Days	Miles	From New York to	Days	Miles
Alexandria	13	6,150	Genoa	10	4,615	Para	12	3,460
Algiers	10	5,030	Glasgow	10	3,375	Paris	8	4,020
Amsterdam	9	3,985	Granada	13	5,350	Pernambuco	15	5,425
Antwerp	9	4,000	Guadelcupe	8	1,860	Port-au-Prince	6	1,600
Arica	27	4,835	Guatemala City	7	2,645	Quebec	2	555
Aspinwall	7	2,281	Hague (The)	9	3,950	Queenstown	7	3,250
Athens	12	5,655	Halifax	2	645	Riga	10	5,190
Bâle	9	4,420	Hamburg	8	4,340	Rio Janeiro	20	6,204
Barbados	8	2,145	Havana	3	1,413	Rome	10	5,030
Barcelona	10	4,790	Havre	8	3,940	Rotterdam	9	3,935
Batavia	34	12,800	Hong Kong	25	10,590	St. Helena Island	27	9,280
Berlin	9	4,385	Honolulu	12	5,645	St. John's	5	1,245
Berne	9	4,490	Iceland	18	5,380	St. Petersburg	10	5,370
Bombay	24	9,765	Interlaken	10	4,525	San Domingo City	7	1,920
Bordeaux	9	4,385	Kingston	5	1,820	San Juan	5	1,730
Bremen	8	4,230	Lisbon	10	5,335	Santiago	38	6,010
Brisbane	34	12,190	Liverpool	8	3,540	Shanghai	25	9,920
Brussels	9	3,975	London	8	3,740	Singapore	33	12,175
Buenos Ayres	29	8,045	Lucerne	9	4,480	Southampton	8	3,680
Cadiz	10	5,375	Lyons	9	4,340	Stockholm	10	4,975
Cairo	12	6,280	Madeira Island	12	5,345	Strasburg	9	4,335
Calcutta	26	11,120	Madras	27	10,525	Stuttgart	11	4,460
Cape Town	27	11,245	Madrid	9	4,925	Suez	14	6,370
Christiania	10	4,650	Melbourne	32	12,265	Sydney	27	11,570
Cologne	9	4,115	Mexico City	5	3,750	Trinidad	6	2,370
Colon	7	2,281	Milan	9	4,615	Turin	9	4,520
Congo	34	9,605	Montevideo	28	7,165	Valparaiso	37	5,940
Constantinople	11	5,810	Moscow	10	5,535	Venice	10	4,780
Copenhagen	10	4,575	Munich	9	4,610	Vera Cruz	6	4,010
Demerara	11	2,605	Naples	9	5,195	Vienna	9	4,740
Dresden	9	4,555	Nassau	4	1,105	Yokohama	20	7,348
Fiji Islands	24	8,855	Nice	9	4,700	Zanzibar	30	9,825
Florence	10	4,800	Nuremberg	9	4,395	Zurich	9	4,470
Frankfort-on-Main	9	4,250	Odessa	11	5,455			
Geneva	9	4,410	Panama	7	2,355			

DON'T USE POOR OIL

¶ For use on Sewing-Machines, Writing Machines, Bicycles, and all purposes requiring a fine lubricant, the best is cheapest in the end.

GENUINE SINGER OIL CAN ONLY BE OBTAINED AT SINGER STORES

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.	PACIFIC TIME.
● New Moon, . . .	4th day, 6h 6m AM	4th day, 5h 6m AM	4th day, 3h 6m AM
☽ First Quarter, . .	12th day, 11h 20m AM	12th day, 10h 20m AM	12th day, 8h 20m AM
○ Full Moon, . . .	19th day, 1h 52m PM	19th day, 0h 52m PM	19th day, 10h 52m AM
☾ Last Quarter, . .	26th day, 5h 3m AM	26th day, 4h 3m AM	26th day, 2h 3m AM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Sun slow M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.
1	Wed	Castor So. 10:42 E.	6 56	5 33	4 33	13 45	7 11	5 17	4 50	♐ 14	7 13	5 16	4 54
2	Thur	**Purification B. V. M.**	6 55	5 34	5 23	13 53	7 10	5 18	5 40	27	7 12	5 18	5 44
3	Fri	Meteors	6 54	5 34	6 09	13 59	7 09	5 20	6 24	♑ 9	7 10	5 19	6 27
4	Sat	♄ 3° S of D	6 54	5 35	sets	14 06	7 08	5 21	sets	22	7 09	5 20	sets
A	Twilight Beg. 5:35 Ends 6:54	**5th Sunday After Epiphany.**								Day's Length	10h. 13m.		**6**
5	**Sun**	Procyon So. 10:32E	6 53	5 36	6 57	14 11	7 07	5 22	6 49	♒ 4	7 08	5 21	6 47
6	Mon	Meteors	6 52	5 37	7 51	14 15	7 06	5 24	7 45	16	7 07	5 22	7 44
7	Tues	(6) ☽ at ♉	6 51	5 38	8 43	14 19	7 05	5 25	8 41	28	7 06	5 24	8 41
8	Wed	☽ Apogee	6 50	5 39	9 35	14 22	7 04	5 26	9 37	♓ 9	7 05	5 25	9 37
9	Thur	(8) ♀ 3° N. of ☽	6 50	5 40	10 28	14 24	7 02	5 27	10 33	21	7 03	5 26	10 35
10	Fri	♃ 3° N. of ☽	6 49	5 41	11 20	14 25	7 01	5 28	11 28	♈ 3	7 02	5 27	11 30
11	Sat	(12) ♄ ☌ ☉	6 48	5 42	morn	14 26	7 00	5 29	morn	15	7 01	5 28	morn
A	Twilight Beg. 5:26 Ends 7:03	**6th Sunday After Epiphany.**								Day's Length	10h. 29m.		**7**
12	**Sun**	A. Lincoln Born	6 47	5 43	0 14	14 25	6 59	5 31	25	27	7 00	5 29	0 28
13	Mon	Aldebaran oc. by ☽	6 46	5 44	1 08	14 24	6 57	5 32	1 22	♉ 10	6 58	5 30	1 25
14	Tues	**St. Valentine**	6 45	5 45	2 04	14 22	6 56	5 33	2 19	23	6 57	5 32	2 23
15	Wed	☽ **Highest** ♍	6 44	5 46	3 07	14 20	6 55	5 35	3 27	♊ 6	6 55	5 33	3 32
16	Thur	(14) ♀ gr. el. E.	6 43	5 46	3 53	14 16	6 53	5 36	4 10	20	6 54	5 34	4 15
17	Fri	Pollux so. 9:40 E.	6 42	5 47	4 48	14 12	6 52	5 37	5 04	♋ 4	6 53	5 35	5 08
18	Sat	20) Meteors	6 41	5 48	5 38	14 7	6 51	5 38	5 52	19	6 52	5 37	5 55
A	Twilight Beg. 5:16 Ends 7:11	**Septuagesima Sunday.**								Day's Length	10h. 48m.		**8**
19	**Sun**	☽ Eclipsed	6 40	5 49	rises	14 02	6 50	5 39	rises	♌ 4	6 50	5 38	rises
20	Mon	☽ Perigee	6 39	5 50	7 08	13 56	6 49	5 40	7 03	19	6 48	5 39	7 02
21	Tues	Moon at ♌ (20)	6 38	5 50	8 16	13 49	6 48	5 43	8 16	♍ 4	6 47	5 41	8 16
22	Wed	Washington Born	6 37	5 51	9 22	13 41	6 47	5 43	9 26	19	6 46	5 42	9 27
23	Thur	(24) ♂ 3° S. of ☽	6 36	5 52	10 28	13 33	6 45	5 45	10 36	♎ 3	6 44	5 43	10 38
24	Fri	**St. Matthias**	6 35	5 53	11 34	13 25	6 44	5 46	11 45	17	6 43	5 44	11 48
25	Sat	Cancer so. 10 E.	6 34	5 54	morn	13 15	6 43	5 48	morn	♏ 1	6 42	5 46	morn
A	Twilight Beg. 5:07 Ends 7:18	**Sexagesima Sunday.**								Day's Length	11h. 7m.		**9**
26	**Sun**	Hydra (a) so. 11 E.	6 32	5 55	0 35	13 6	6 42	5 4	50	15	6 40	5 47	0 53
27	Mon	☽ **Lowest** ♋	6 31	5 55	1 35	12 55	6 40	5 50	1 51	28	6 38	5 48	1 55
28	Tues	Regulus so. 11:29 E	6 30	5 56	2 29	12 44	6 37	5 51	2 46	♐ 11	6 37	5 50	2 51

NOTE: The southing or meridian passage of all the constellations and bright stars to be seen in the United States is given in the wide column of the 12 months. To obtain the southing of any star or constellation for any other date than the one given subtract an hour for each 15 days later, or add an hour for each 15 days earlier, or 2 hours per month. For Pacific Coast points corresponding to the three zones of latitude above add 6 minute's to moon's rising and setting, or add 2 minutes for each hour of longitude west of Washington.

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
● New Moon, . .	6th day, 0h 19m AM	5th day, 11h 19m PM	5th day, 9h 19m PM
☽ First Quarter, . .	14th day, 3h 59m AM	14th day, 2h 59m AM	14th day, 0h 59m AM
○ Full Moon, . . .	20th day, 11h 55m PM	20th day, 10h 55m PM	20th day, 8h 55m PM
☾ Last Quarter, . .	27th day, 4h 35m PM	27th day, 3h 35m PM	27th day, 1h 35m PM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Sun slow M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.
1	Wed	**St. David**	6 29	5 57	3 20	12 33	6 35	5 52	3 37	♐ 24	6 36	5 51	3 41
2	Thur	Meteors	6 28	5 58	4 06	12 21	6 33	5 53	4 22	♑ 6	6 33	5 53	4 25
3	Fri	Leo South 11 E.	6 27	5 59	4 48	12 09	6 31	5 54	5 02	18	6 30	5 54	5 05
4	Sat	♀ in Per.	6 25	5 59	5 26	11 56	6 29	5 55	5 38	30	6 28	5 55	5 40
A		Twilight Beg. 4:54 Ends 7:29 — **Quinquagesima Sunday.** — Day's Length 11h 29m											**10**
5	**Sun**	(6) ☉ Eclipse	6 24	6 00	6 02	11 42	6 28	5 56	6 10	♒ 12	6 27	5 56	6 12
6	Mon	(5) ☽ at ♉	6 23	6 01	sets	11 29	6 26	5 58	sets	24	6 26	5 57	sets
7	Tues	Shrove Tuesday	6 22	6 02	7 30	11 14	6 25	5 59	7 30	♓ 06	6 24	5 58	7 30
8	Wed	Ash Wed. Lent Bg	6 20	6 02	8 21	11 00	6 23	6 00	8 24	18	6 22	5 59	8 25
9	Thur	(8) ☽ Apogee	6 19	6 03	9 15	10 45	6 21	6 01	9 22	30	6 21	6 01	9 23
10	Fri	(9) ♃ 3° N. of ☽	6 18	6 04	10 07	10 29	6 19	6 02	10 17	♈ 12	6 19	6 03	10 19
11	Sat	Meteors	6 16	6 05	11 01	10 14	6 18	6 03	11 13	24	6 17	6 04	11 16
A		Twilight Beg. 4:36 Ends 7:40 — **Quadragesima Sunday.** — Day's Length 11h 40m											**11**
12	**Sun**	Aldebaran oc by ☾	6 15	6 05	11 54	9 58	6 16	6 04	morn	♉ 6	6 15	6 05	morn
13	Mon	Argus(N)So 1117E	6 14	6 06	morn	9 42	6 15	6 05	0 09	18	6 13	6 06	0 13
14	Tues	☽ **Highest** ♎	6 13	6 07	0 48	9 25	6 13	6 07	1 05	♊ 1	6 11	6 07	1 09
15	Wed	**Ember Day**	6 11	6 08	1 42	9 08	6 11	6 08	1 59	14	6 10	6 08	2 03
16	Thur	15 A. Jackson born	6 10	6 08	2 33	8 51	6 10	6 09	2 50	28	6 08	6 10	2 54
17	Fri	**St. Patrick. Emb.D.**	6 09	6 09	3 25	8 33	6 08	6 10	3 40	♋ 12	6 07	6 11	3 43
18	Sat	**Ember Day**	6 07	6 10	4 13	8 16	6 06	6 11	4 25	27	6 05	6 12	4 28
A		Twilight Beg. 4:27 Ends 7:48 — **2d Sunday in Lent.** — Day's Length 12h 9m											**12**
19	**Sun**	(21) Spring begins	6 06	6 11	4 59	7 58	6 05	6 12	5 08	♌ 12	6 04	6 13	5 10
20	Mon	(19) ☽ at ♌	6 05	6 11	rises	7 40	6 03	6 13	rises	27	6 02	6 15	rises
21	Tues	☽ Perigee	6 04	6 12	7 00	7 22	6 01	6 14	7 02	♍ 12	6 00	6 16	7 03
22	Wed	Ursa Maj(α)So. 11E	6 02	6 13	8 10	7 04	6 00	6 15	8 16	27	5 58	6 17	8 17
23	Thur	(24) ♂ 3° S. of ☽	6 01	6 13	9 17	6 45	5 58	6 16	9 27	♎ 12	5 57	6 18	9 29
24	Fri	(25) **Lady Day**	6 00	6 14	10 29	6 27	5 56	6 17	10 42	27	5 55	6 19	10 46
25	Sat	☽ **Lowest** ♉	5 58	6 15	11 27	6 09	5 55	6 18	11 43	♏ 11	5 53	6 20	11 46
A		Twilight Beg. 4:15 Ends 7:57 — **3d Sunday in Lent.** — Day's Length 12h 30m											**13**
26	**Sun**	Denebola So 1128E	5 57	6 15	morn	5 50	5 53	6 19	morn	25	5 51	6 21	morn
27	Mon	So. Cross So. 12E.	5 56	6 16	0 24	5 32	5 51	6 20	0 41	♐ 8	5 49	6 22	0 46
28	Tues	Corvus So. 12 E.	5 54	6 17	1 17	5 14	5 50	6 21	1 34	21	5 47	6 23	1 35
29	Wed	Spica So. 1M	5 53	6 18	2 05	4 55	5 48	6 22	2 21	♑ 3	5 45	6 24	2 25
30	Thur	Agena So. 1M	5 52	6 18	2 49	4 37	5 46	6 23	3 03	15	5 44	6 25	3 06
31	Fri	♄ 2° S. of ☾	5 50	6 19	3 28	4 19	5 45	6 24	3 39	27	5 42	6 26	3 42

Table of Memorable Dates.

B. C.
1183 Fall of Troy.
1082 Era of the Great Pyramid.
878 Carthage founded.
776 Olympic Era began.
753 Foundation of Rome.
588 Jerusalem taken by Nebuchadnezzar.
536 Restoration of the Jews under Cyrus.
509 Expulsion of Tarquins from Rome.
480 Xerxes defeated Greeks at Thermopylæ.
55 Cæsar conquered Britain
4 Birth of Jesus Christ.

A. D.
29 The Crucifixion.
70 Jerusalem was destroyed by Titus.
313 Constantine converted to Christianity.
410 The Romans abandoned Britain.
827 Egbert, first king of all England, Oct. 14.
1066 Battle of Hastings, Norman Conquest.
1096 The Crusades began.
1172 Ireland was conquered by Henry II.
1215 King John granted Magna Charta, June 15.
1265 First representative Parliament in England.
1415 Battle of Agincourt, Oct. 25.
1431 Joan of Arc was burnt, May 30.
1453 Constantinople taken by the Turks.
1455 The Wars of the Roses began.
1462 The Bible was first printed at Mentz.
1471 Caxton set up his printing press.
1486 The feuds of York and Lancaster ended.
1492 Columbus discovered America, Oct. 12.
1517 The Reformation began in Germany.
1519 Cortez began the conquest of Mexico.
1535 The first English Bible printed.
1539 Monasteries were closed in England.
1558 Accession of Queen Elizabeth, Nov. 17.
1565 Revolt of the Netherlands began.
1572 The St. Bartholomew Massacre, Aug. 24.
1588 The Spanish Armada defeated, July.
1600 East India Company first chartered.
1603 Union of England and Scotland, March 24.
1605 The Gunpowder Plot in England.
1607 Jamestown, Va., was settled.
1609 Hudson River first explored.
1616 Shakespeare died, April 23.
1618 Thirty Years' War in Germany began.

A. D.
1620 Pilgrims by the Mayflower landed.
1623 Manhattan Island settled.
1634 Maryland settled by Roman Catholics.
1636 Rhode Island settled by Roger Williams.
1640 Cromwell's Long Parliament assembled.
1649 Charles I. was beheaded, Jan. 30.
1653 Oliver Cromwell became Lord Protector.
1660 Restoration of the Stuarts.
1664 New York conquered from the Dutch.
1664 The great plague of London.
1666 The great fire of London began, Sept. 2.
1679 Habeas Corpus Act passed in England.
1682 Pennsylvania settled by William Penn.
1685 Revocation of the Edict of Nantes, Oct. 22.
1688 James II. abdicated, Dec. 11.
1690 Battle of the Boyne, July 1.
1690 First newspaper in America, at Boston.
1704 Gibraltar was taken by the English.
1713 Peace of Utrecht, April 11.
1714 Accession of House of Hanover, Aug. 1.
1715 First Jacobite Rebellion in Great Britain.
1720 South Sea Bubble.
1745 Battle of Fontenoy, April 30.
1745 Second Jacobite Rebellion in Great Britain.
1756 Black Hole Suffocation in Calcutta.
1757 Clive won Battle of Plassy in India.
1759 Canada was taken from the French.
1765 Stamp Act enacted.
1773 Steam engine perfected by Watt.
1773 Tea destroyed in Boston Harbor, Dec. 16.
1775 Battle of Lexington, April 19.
1775 Battle of Bunker Hill, June 17.
1776 Declaration of Independence, July 4.
1777 Burgoyne's surrender, Oct. 17.
1779 Capt. Cook was killed, Feb. 14.
1781 Cornwallis' surrender at Yorktown, Oct. 19.
1788 First settlement in Australia, Jan. 26.
1789 The French Revolution began, July 14.
1789 Washington first inaugurated President.
1793 Cotton-gin invented by Whitney.
1793 Louis XVI. of France executed, Jan. 21.
1796 Vaccination discovered by Jenner.

A. D.
1798 The Irish Rebellion.
1799 Battle of Seringapatam, death of Tippoo.
1799 Bonaparte declared First Consul, Nov. 10.
1801 Union of Great Britain and Ireland, Jan. 1.
1803 Louisiana purchased from the French.
1804 Bonaparte became Emperor of France.
1805 Battle of Trafalgar; death of Nelson.
1807 Fulton's first steamboat voyage.
1812 Second war with Great Britain.
1812 The French expedition to Moscow.
1813 Perry's victory on Lake Erie, Sept. 10.
1814 The printing machine invented
1814 Scott's "Waverley" published.
1815 Battle of New Orleans, Jan. 8.
1815 Battle of Waterloo, June 18.
1819 First steamship crossed the Atlantic.
1820 Missouri Compromise
1823 Monroe Doctrine declared, Dec. 2.
1828 First passenger railroad in the United States.
1830 Revolution in France, Orleanist succession.
1832 S. Carolina Nullification Ordinance.
1835 Morse invented the telegraph.
1835 Seminole War in Florida began.
1837 Accession of Queen Victoria, June 20.
1845 Texas annexed.
1846 The Irish Potato Famine
1846 British Corn laws repealed, June 26.
1846 War with Mexico began.
1848 French Revolution. Republic succeeded.
1848 Gold discovered in California, Sept.
1850 *First practical sewing-machine introduced by I M. Singer.*
1851 Gold discovered in Australia, Feb. 12.
1851 First International Exhibition, London.
1852 Louis Napoleon became Emperor, Dec. 2.
1853 Crimean War began.
1857 The Great Mutiny in India.
1857 The Dred Scott decision.
1859 John Brown's raid into Virginia.
1860 South Carolina seceded, Dec. 20.
1861 Emancipation of the Russian serfs.
1863 Lincoln's Emancipation Proclamation, Jan. 1.
1863 Battle of Gettysburg, July 1-3.
1865 Lee surrendered at Appomattox, April 9.
1865 President Lincoln assassinated, April 14.

Continued on page 16)

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ New Moon, . .	4th day, 6h 23m PM	4th day, 5h 23m PM	4th day, 3h 23m PM
☽ First Quarter . .	12th day, 4h 41m PM	12th day, 3h 41m PM	12th day, 1h 41m PM
○ Full Moon, . . .	19th day, 8h 38m AM	19th day, 7h 38m AM	19th day, 5h 38m AM
☾ Last Quarter, . .	26th day, 6h 13m PM	26th day, 5h 13m AM	26th day, 3h 13m AM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M	Sun slow M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.
1	Sat	Meteors	5 49	6 20	4 4	4 1	5 43	6 25	4 13	♒ 9	5 40	6 27	4 15
A	Twilight Beg. 3:56 Ends 8:09	**Mid-Lent Sunday.**								Day's Length 12h 49m			**14**
2	Sun	♂ Sta. (5) ♀ Sta.	5 48	6 20	4 38	3 43	5 41	6 26	4 44	21	5 39	6 28	4 45
3	Mon	Moon at ♉ (1)	5 46	6 21	5 10	3 25	5 40	6 27	5 12	♓ 3	5 38	6 29	5 13
4	Tues	☽ Apogee	5 45	6 22	5 41	3 07	5 38	6 28	5 40	15	5 36	6 30	5 40
5	Wed	(4) ☿ Gr. El. E.	5 44	6 22	sets	2 49	5 36	6 29	sets	27	5 24	6 31	sets
6	Thur	♅ 4° N. of ☽	5 42	6 23	8 3	2 32	5 35	6 30	8 12	♈ 9	5 32	6 32	8 14
7	Fri	(6) ♀ 12° N. of ☽	5 41	6 24	8 57	2 15	5 33	6 31	9 08	21	5 30	6 33	9 09
8	Sat	Virgo So. 12 E.	5 40	6 25	9 40	1 58	5 32	5 32	10 04	♉ 3	5 29	6 35	10 07
A	Twilight Beg. 3:42 Ends 8:20	**5th Sunday in Lent (Passion.)**								Day's Length 13h 8m			**15**
9	Sun	Aldebaran oc by ☽	5 39	6 25	10 44	1 41	5 30	6 33	11 00	15	5 28	6 36	11 04
10	Mon	Centaurus So. 1M	5 37	6 26	11 32	1 25	5 28	6 35	11 51	28	5 26	6 37	11 56
11	Tues	☽ **Highest** ♋	5 36	6 27	morn	1 08	5 27	6 36	morn	♊ 10	5 24	6 38	morn
12	Wed	Meteors	5 35	6 27	0 28	0 52	5 25	6 37	45	24	5 22	6 40	0 50
13	Thur	T. Jefferson born	5 34	6 28	1 18	0 37	5 24	6 38	1 34	♋ 7	5 20	6 41	1 38
14	Fri	Bootes So. 1M	5 32	6 29	2 05	0 21	5 22	6 39	2 19	21	5 19	6 42	2 22
15	Sat	Libra So. 1 M	5 31	6 29	2 49	0 06	5 21	6 40	3 00	♌ 5	5 17	6 43	3 03
A	Twilight Beg. 3:27 Ends 8:32	**Palm Sunday.**								Day's Length 13h 38m			**16**
16	Sun	Meteors	5 30	6 30	3 33	Fast	5 19	6 41	3 40	20	5 16	6 44	3 42
17	Mon	Moon at ♋ (16)	5 29	5 31	4 16	0 23	5 18	6 42	4 19	♍ 5	5 14	6 45	4 19
18	Tues	☽ Perigee	5 28	6 32	4 58	0 37	5 16	6 43	4 56	20	5 13	6 47	4 56
19	Wed	Paul Revere Day	5 26	6 32	rises	0 51	5 15	6 44	rises	♎ 5	5 12	6 48	rises
20	Thur	**Maundy Thr.**	5 25	6 33	8 02	1 04	5 13	6 45	8 13	20	5 10	6 49	8 16
21	Fri	Good Friday	5 24	6 34	9 08	1 17	5 12	6 46	9 23	♏ 5	5 08	6 50	9 27
22	Sat	(20) ♂ 4° S. of ☽	5 23	6 35	10 11	1 29	5 10	6 47	10 28	20	5 07	6 51	10 32
A	Twilight Beg. 3:14 Ends 8:44	**Easter Sunday.**								Day's Length 13h 47m			**17**
23	Sun	☽ **Lowest** ♋	5 22	6 35	11 09	1 41	5 09	6 48	11 27	♐ 3	5 05	6 52	11 31
24	Mon	Ursa Min. So. 1 M	5 21	6 36	12 00	1 52	5 08	6 49	morn	17	5 03	6 53	morn
25	Tues	**St. Mark**	5 20	6 36	morn	2 03	5 06	6 50	17	30	5 02	6 54	0 21
26	Wed	(27) ♂ ☉ Inf.	5 19	6 37	0 47	2 14	5 05	6 51	1 02	♑ 12	5 00	6 55	1 06
27	Thur	U. S. Grant born	5 18	6 38	1 29	2 24	5 03	6 52	1 41	24	4 59	6 56	1 44
28	Fri	♄ 2° S of ☽, ☽ at ♉	5 17	6 39	2 2	2 33	5 02	6 53	2 15	♒ 6	4 58	6 57	2 18
29	Sat	N'th'n Crown S1m	5 16	6 40	2 38	2 42	5 01	6 54	2 46	18	4 56	6 58	2 48
A	Twilight Beg. 3:02 Ends 8:53	**Low Sunday.**								Day's Length 14h 6m			**18**
30	Sun	Serpent Bearer S1M	5 15	6 41	3 12	2 50	4 59	6 55	3 16	30	4 54	7 00	3 17

A. D.
1866 Battle of Sadowa. Prussia beat Austria.
1867 Emperor Maximilian of Mexico executed.
1867 The Dominion of Canada established.
1870 Franco-German war began, July 19.
1870 Capitulation of French at Sedan, Sept. 1.
1870 Rome became the capital of Italy.
1871 The German Empire re-established.
1871 The Irish Church disestablished.

A. D.
1871 The great fire in Chicago, Oct. 8–11.
1872 The great fire in Boston, Nov. 9.
1876 The Centennial Exposition at Philadelphia.
1881 President Garfield shot.
1889 Brazil became a republic
1889 Johnstown, Penn., flood, May 31.
1893 World's Columbian Exposition at Chicago.
1894 Chinese – Japanese War began.
1895 Cuban Revolution began, Feb. 20.
1897 The Turkish–Greek War.

A. D.
1898 The Spanish – American War.
1899 Universal Peace Conference.
1899 The South African War began.
1900 Boxer insurrection in China.
1900 The Galveston tornado, Sept. 8.
1901 Death of Queen Victoria.
1901 Assassination of President McKinley.
1902 Martinique destroyed by volcanic eruption.
1903 Republic of Panama established.

Anniversaries.

DATES OF HISTORICAL EVENTS CUSTOMARILY OR OCCASIONALLY OBSERVED.

Jan. 1. Emancipation Proclamation by Lincoln, 1863.
Jan. 8. Battle of New Orleans, 1815.
Jan. 17. Franklin born, 1706.
Jan. 17. Battle of the Cowpens, S. C., 1781.
Jan. 18. Daniel Webster born, 1782.
Jan. 19. Robert E. Lee born, 1807.
Jan. 27. German Emperor born, 1859.
Feb. 12. Abraham Lincoln born, 1809.
Feb. 15. Battleship Maine blown up, 1898.
Feb. 22. George Washington born, 1732.
Feb. 22–23. Batle of Buena Vista, 1847.
March 5. Boston Massacre, 1770.
March 15. Andrew Jackson born, 1767.
March 18. Grover Cleveland born, 1837.
April 1. Bismarck born, 1815.
April 9. Lee surrendered at Appomattox, 1865.
April 12. Fort Sumter fired upon, 1861.
April 12. Henry Clay born, 1777.
April 13. Thomas Jefferson born, 1743.
April 14. Lincoln assassinated, 1865.
April 19. Primrose Day in England, Lord Beaconsfield died, 1881.
April 19. Battles of Lexington and Concord, 1775.
April 23. Shakespeare born, 1564.
April 27. Gen. U. S. Grant born, 1822.
April 30. Washington was inaugurated first President, 1789.
May 1. Dewey destroyed the Spanish fleet at Manila, 1898.
May 13. First English settlement in America, at Jamestown, 1607.
May 13. Society of The Cincinnati organized by officers of Revolutionary Army, 1783.
May 18. The Czar of Russia born, 1868.
May 20. Mecklenburg, N. C., Declaration of Independence, 1775.
May 24. Queen Victoria born, 1819.
June 6. Gen. Nathaniel Greene born, 1742
June 15. King John granted Magna Charta at Runnymede, 1215.
June 17. Battle of Bunker Hill, 1775.
June 18. Battle of Waterloo, 1815.
June 28. Battle of Fort Moultrie, Charleston, S. C., 1776.
July 1. Dominion Day in Canada.
July 1–3. Battle of Gettysburg, 1863.
July 3. Cervera's fleet was destroyed off Santiago, 1898.
July 4. Declaration of Independence, 1776.
July 14. The Bastile was destroyed, 1789.
July 16. Santiago surrendered, 1898.
July 21. Battle of Bull Run, 1861.
Aug. 13. Manila surrendered to the Americans, 1898.
Aug. 16. Battle of Bennington, Vt., 1777.
Sept. 1. Capitulation of Sedan, 1870.
Sept. 6. President McKinley shot at Buffalo, 1901.
Sept. 8. Battle of Eutaw Springs, S. C., 1781.
Sept. 10. Battle of Lake Erie, Perry's victory, 1813.
Sept. 11. Battle of Lake Champlain, McDonough's victory, 1814.
Sept. 13. Battle of Chapultepec, 1847.
Sept. 14. City of Mexico taken by U. S. troops, 1847.
Sept. 17. Battle of Antietam, 1862.
Sept. 19–20. Battle of Chickamauga, 1863.
Sept. 20. Italians occupied Rome, 1870.
Oct. 7. Battle of King's Mountain, N. C., 1780.
Oct. 8–11. Great fire of Chicago, 1871.
Oct. 12. Columbus discovered America, 1492.
Oct. 17. Burgoyne surrendered at Saratoga, 1777.
Oct. 19. Cornwallis surrendered at Yorktown, 1781.
Nov. 5. Guy Fawkes Day in England. The Gunpowder plot discovered, 1604.
Nov. 9. King Edward VII. born, 1841.
Nov. 9. Great fire of Boston, 1872.
Nov. 10. Martin Luther born, 1483.
Nov. 25. British evacuated New York, 1783.
Dec. 2. Battle of Austerlitz, 1805.
Dec. 14. Washington died, 1799.
Dec. 16. Boston "Tea Party," 1773.
Dec. 16. The great fire in New York, 1835.
Dec. 22. Mayflower Pilgrims landed at Plymouth Rock, 1620.
Dec. 25–26. Battle of Trenton, N. J., 1776.
Dec. 29. William Ewart Gladstone born, 1809.

WEDDING ANNIVERSARIES.

First year, cotton wedding; second, paper; third, leather; fourth, book; fifth, wooden; sixth, garnet; seventh, woolen; eighth, bric-a-brac; ninth, topaz; tenth, tin; twelfth, silk and fine linen; fifteenth, crystal; twentieth, china; twenty-fifth, silver; thirtieth, pearl; thirty-fifth, sapphire; fortieth, ruby; fiftieth, golden; seventy-fifth, diamond.

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
● New Moon, . .	4th day, 10h 50m AM	4th day, 9h 50m AM	4th day, 7h 50m AM
☽ First Quarter, . .	12th day, 1h 46m AM	12th day, 0h 46m AM	11th day, 10h 46m PM
○ Full Moon, . . .	18th day, 4h 36m PM	18th day, 3h 36m PM	18th day, 1h 36m PM
☾ Last Quarter, . .	25th day, 9h 49m PM	25th day, 8h 49m PM	25th day, 6h 49m PM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H.M.	Sun fast M.S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H.M.	Moon's place at 7 PM.		Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H.M.
1	Mon	☽ Apogee	5 14	6 41	3 44	2 58	4 58	6 56	3 44	♓	12	4 53	7 01	3 44
2	Tues	(1) ☽ at ♌ ☌ ☿ ☽ (3)	5 13	6 42	4 16	3 05	4 56	6 57	4 13		24	4 52	7 02	4 12
3	Wed	♀ 3° N. of ☽	5 12	6 42	4 48	3 12	4 55	6 58	4 41	♈	6	4 50	7 03	4 40
4	Thur	☌ ♅ ☉	5 11	6 43	sets	3 18	4 54	6 59	sets		18	4 49	7 04	sets
5	Fri	(2) Meteors	5 10	6 44	7 46	3 24	4 53	7 00	8 00		30	4 48	7 05	8 02
6	Sat	Aldebaran oc. by ☽	5 09	6 45	8 40	3 20	4 52	7 02	8 56	♉	12	4 47	7 06	8 59
A		Twilight Beg. 2:42 Ends 9:09 — **2d Sunday After Easter.** — Day's Length 14h 21m												**19**
7	Sun	(8) ☿ ☌ ☉	5 08	6 45	9 33	3 33	4 51	7 03	9 50		25	4 46	7 07	9 55
8	Mon	☽ **Highest** ♎	5 07	6 46	10 25	3 37	4 50	7 04	10 43	♊	7	4 45	7 08	10 47
9	Tues	Antares So. 1M	5 06	6 47	11 15	3 41	4 49	7 05	11 32		20	4 44	7 09	11 36
10	Wed	Meteors	5 05	6 47	morn	3 44	4 47	7 06	mo n	♋	4	4 43	7 10	morn
11	Thur	☌ in ♌	5 04	6 48	0 03	3 46	4 46	7 07	0 18		17	4 42	7 11	0 22
12	Fri	Hercules So. 1M	5 04	6 49	0 48	3 48	4 45	7 08	1 00	♌	1	4 41	7 12	1 03
13	Sat	Dragon So. 2M	5 03	6 50	1 30	3 49	4 44	7 08	1 38		15	4 40	7 13	1 40
A		Twilight Beg. 2:28 Ends 9:23 — **3d Sunday After Easter.** — Day's Length 14h 34m												**20**
14	Sun	Moon at ♌ (12)	5 02	6 50	2 10	3 49	4 43	7 09	2 15		29	4 39	7 14	2 17
15	Mon	Vega So. 3M	5 01	6 51	2 50	3 49	4 42	7 10	2 51	♍	14	4 38	7 15	2 51
16	Tues	♀ Sta.	5 01	6 52	3 32	3 49	4 41	7 11	3 28		29	4 37	7 16	3 27
17	Wed	☽ Perigee	5 00	6 53	4 14	3 48	4 41	7 12	4 06	♎	14	4 36	7 17	4 04
18	Thur	(17) ☌ 5° So. of ☽	4 59	6 53	rises	3 46	4 40	7 13	rises		29	4 35	7 18	rises
19	Fri	Scorpio So. 12E	4 59	6 54	7 53	3 44	4 39	7 14	8 09	♏	13	4 34	7 19	8 13
20	Sat	☽ **Lowest** ♉	4 58	6 55	8 54	3 41	4 38	7 15	9 12		28	4 33	7 20	9 16
A		Twilight Beg. 2:14 Ends 9:38 — **4th Sunday After Easter.** — Day's Length 14h 49m												**21**
21	Sun	♀ Gr. El. W.	4 58	6 55	9 53	3 38	4 37	7 15	10 11	♐	12	4 32	7 21	10 15
22	Mon	(21) ♀ in ♉	4 57	6 56	10 41	3 34	4 37	7 16	10 57		25	4 32	7 22	11 01
23	Tues	(25) Meteors	4 56	6 57	11 25	3 30	4 36	7 17	11 40	♑	8	4 31	7 23	11 43
24	Wed	□ ♄ ☉ W.	4 56	6 57	morn	3 25	4 35	7 18	morn		21	4 30	7 24	morn
25	Thur	♄ 1° S. of ☽	4 55	6 58	0 06	3 20	4 35	7 19	0 17	♒	3	4 29	7 25	0 20
26	Fri	Lyra So. 2M	4 55	6 59	0 41	3 14	4 34	7 20	0 49		15	4 29	7 26	0 51
27	Sat	Sagittarius So. 2M	4 55	6 59	1 13	3 07	4 34	7 21	1 19		27	4 28	7 27	1 20
A		Twilight Beg. 2:02 Ends 9:48 — **Rogation Sunday.** — Day's Length 15h 0m												**22**
28	Sun	Moon at ♉ (26)	4 54	7 00	1 45	3 00	4 33	7 21	1 47	♓	8	4 28	7 28	1 48
29	Mon	☽ Apogee	4 54	7 01	2 17	2 53	4 33	7 22	2 15		20	4 27	7 29	2 14
30	Tues	♀ 3° N. of ☽	4 54	7 01	2 49	2 45	4 32	7 23	2 43	♈	2	4 26	7 30	2 42
31	Wed	Altair So. 3M	4 53	7 02	3 32	2 37	4 32	7 24	3 14		14	4 26	7 30	3 12

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ New Moon, . .	3d day, 0h 56m AM	2d day, 11h 56m PM	2d day, 9h 56m PM
☽ First Quarter, . .	10th day, 8h 4m AM	10th day, 7h 4m AM	10th day, 5h 4m AM
● Full Moon, ...	17th day, 0h 51m AM	16th day, 11h 51m PM	16th day, 9h 51m PM
☾ Last Quarter. . .	24th day, 2h 46m PM	24th day, 1h 46m PM	24th day, 11h 46m AM

Day of month.	Day of week.	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss.; Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Sun fast and slow M. S.	N. York, New Eng, N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N. Y., Pa., S. Wis., S. Mich., N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n rises & sets H. M.
1	Thur	Ascension Thurs.	4 53	7 02	3 59	2 28	4 31	7 25	3 47	♈ 26	4 25	7 31	3 44
2	Fri	(2) ☿ 1° 42′ S. of ♅	4 53	7 03	4 38	2 19	4 31	7 25	4 24	♉ 9	4 24	7 31	4 20
3	Sat	Aquila So. 3M	4 52	7 03	sets	2 09	4 30	7 26	sets	21	4 24	7 32	sets
A		Twilight Beg. 1:52 Ends 10:04 — **Sunday After Ascension.** — Day's Length 15h 9m											**23**
4	Sun	☽ **Highest** ♎	4 52	7 04	8 21	1 59	4 30	7 27	8 39	♊ 4	4 24	7 33	8 43
5	Mon	Capricornus So. 3M	4 52	7 04	9 13	1 49	4 29	7 27	9 31	17	4 24	7 33	9 35
6	Tues	Cygnus So. 4M	4 52	7 05	10 03	1 38	4 29	7 28	10 19	♋ 1	4 24	7 34	10 22
7	Wed	Meteors	4 52	7 05	10 49	1 27	4 29	7 28	11 02	14	4 23	7 34	11 06
8	Thur	Acrux So. 7E	4 51	7 06	11 30	1 16	4 28	7 29	11 40	28	4 23	7 35	11 42
9	Fri	Antares So. 11E	4 51	7 06	morn	1 05	4 28	7 29	morn	♌ 11	4 23	7 35	morn
10	Sat	(11) St. Barnabas	4 51	7 07	0 11	0 53	4 28	7 30	0 17	25	4 23	7 36	0 19
A		Twilight Beg. 1:46 Ends 10:13 — **Whit Sunday (Pentecost).** — Day's Length 15h 12m											**24**
11	Sun	Moon at ♋ (9)	4 51	7 07	0 50	0 41	4 28	7 30	0 52	♍ 10	4 23	7 36	0 52
12	Mon	(13) ♂ 6° S. of ☽	4 51	7 08	1 29	0 29	4 28	7 31	1 27	24	4 23	7 37	1 27
13	Tues	☽ Perigee	4 51	7 08	2 09	0 17	4 28	7 31	2 03	♎ 8	4 23	7 37	2 02
14	Wed	**Ember Day**	4 51	7 08	2 51	0 04	4 28	7 32	2 39	23	4 23	7 38	2 38
15	Thur	(14) Flag Day	4 51	7 09	3 37	slow	4 28	7 32	3 23	♏ 8	4 23	7 38	3 19
16	Fri	**Ember Day**	4 51	7 09	4 27	0 21	4 28	7 32	4 11	22	4 23	7 38	4 07
17	Sat	☽ **Lowest** ♉ **Em. D.**	4 51	7 10	rises	0 34	4 28	7 33	rises	♐ 6	4 23	7 39	rises
A		Twilight Beg. 1:44 Ends 10:18 — **1st Sunday After Pentecost (Cath.). Trinity Sunday (Prot.).** — Day's Length 15h 16m											**25**
18	Sun	Rutilicus So. 11E	4 51	7 10	8 30	0 47	4 28	7 33	8 47	20	4 23	7 39	8 52
19	Mon	Etamin So. 12E	4 51	7 10	9 10	0 56	4 28	7 33	9 34	♑ 3	4 23	7 39	9 38
20	Tues	(22) ♃ 1° S. of ☽	4 52	7 11	10 01	1 12	4 28	7 34	10 14	16	4 23	7 40	10 17
21	Wed	Summer beg.	4 52	7 11	10 36	1 25	4 29	7 34	10 49	28	4 24	7 40	10 51
22	Thur	**Corpus Christi**	4 52	7 11	11 14	1 38	4 29	7 34	11 21	♒ 11	4 24	7 40	11 22
23	Fri	(24) St. John, Bap.	4 52	7 11	11 40	1 51	4 29	7 35	11 49	23	4 24	7 41	11 50
24	Sat	Moon at ♉ (22)	4 53	7 11	morn	2 04	4 29	7 35	morn	♓ 5	4 24	7 41	morn
A		Twilight Beg. 1:45 Ends 10:18 — **2d Sunday After Pentecost (Cath.). 1st Sunday After Trinity (Prot.).** — Day's Length 15h 16m											**26**
25	Sun	☽ Apogee	4 53	7 11	0 19	2 17	4 30	7 35	0 10	17	4 25	7 41	0 19
26	Mon	(28) Meteors	4 53	7 11	0 50	2 30	4 30	7 35	0 40	28	4 25	7 41	0 45
27	Tues	(28) ♅ 4° N. of ☽	4 53	7 12	1 23	2 42	4 30	7 35	1 16	♈ 10	4 25	7 41	1 14
28	Wed	♀ 2° N. of ☽	4 54	7 12	1 57	2 53	4 31	7 35	1 47	22	4 26	7 41	1 44
29	Thur	Peter and Paul	4 54	7 12	2 35	3 07	4 31	7 35	2 22	♉ 5	4 26	7 41	2 19
30	Fri	Aldebaran oc. by ☽	4 54	7 12	3 16	3 19	4 32	7 35	3 01	17	4 26	7 41	2 57

Height and Weight of Men.

TABLE OF AVERAGE HEIGHT AND WEIGHT OF MALES, BASED ON ANALYSIS OF 74,162 ACCEPTED APPLICANTS FOR LIFE INSURANCE AS REPORTED TO THE ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS.

Height.	Age. 15–24 Pounds	Age. 25–29 Pounds	Age. 30–34 Pounds	Age. 35–39 Pounds	Age. 40–44 Pounds	Age. 45–49 Pounds	Age. 50–54 Pounds	Age. 55–59 Pounds	Age. 60–64 Pounds	Age. 65–69 Pounds
5 ft.	120	125	128	131	133	134	134	134	131	...
5 ft. 1 in.	122	126	129	131	134	136	136	136	134	...
5 ft. 2 in.	124	128	131	133	136	138	138	138	137	...
5 ft. 3 in.	127	131	134	136	139	141	141	141	140	140
5 ft. 4 in.	131	135	138	140	143	144	145	145	144	143
5 ft. 5 in.	134	138	141	143	146	147	149	149	148	147
5 ft. 6 in.	138	142	145	147	150	151	153	153	153	151
5 ft. 7 in.	142	147	150	152	155	156	158	158	158	156
5 ft. 8 in.	146	151	154	157	160	161	163	163	163	162
5 ft. 9 in.	150	155	159	162	165	166	167	168	168	168
5 ft. 10 in	154	159	164	167	170	171	172	173	174	174
5 ft 11 in	159	164	169	173	175	177	177	178	180	180
6 ft.	165	170	175	179	180	183	182	183	185	185
6 ft. 1 in.	170	177	181	185	186	189	188	189	189	189
6 ft. 2 in.	176	184	188	192	194	196	194	194	192	192
6 ft. 3 in.	181	190	195	200	203	204	201	198	...	...

A Height and Weight Table compiled by a Committee of the Medical Section of the National Fraternal Congress, 1900, which is the analysis of 133,940 applications of selected risks, in a few instances differed very slightly from the above.

Height and Weight of Women.

The following table gives the relative height and weight of women, all ages. The weight of ordinary clothing, however, is included:

Height.	Average.	Minimum.	Maximum.	Height.	Average.	Minimum.	Maximum.
5 feet	115	98	132	5 feet 7 inches.....	145	123	167
5 feet 1 inch.....	120	102	138	5 feet 8 inches.....	148	126	170
5 feet 2 inches.....	125	106	144	5 feet 9 inches.....	155	131	179
5 feet 3 inches.....	130	111	150	5 feet 10 inches.....	160	136	184
5 feet 4 inches.....	135	115	155	5 feet 11 inches.....	165	138	190
5 feet 5 inches.....	140	119	161	6 feet	170	141	196
5 feet 6 inches.....	143	121	165				

RELATING TO NOTES.

Demand notes are payable on presentation without grace, and bear legal interest, after a demand has been made, if not so written. An indorser on a demand note is holden only for a limited time, variable in different States.

A negotiable note must be made payable either to bearer, or be properly indorsed by the person to whose order it is made. If the indorser wishes to avoid responsibility, he can indorse it "without recourse."

A joint note is one signed by two or more persons, who each becomes liable for the whole amount.

Notes dated Sunday are void.

Altering a note in any manner by the holder makes it void.

Notes given by minors are void.

The maker of a note that is lost or stolen is not released from payment if the amount and consideration can be proved.

Notes obtained by fraud, or given by an intoxicated person cannot be collected.

An indorser has a right of action against all whose names were previously on a note indorsed by him.

Deposits of money in a bank placed to the credit of depositors are always subject to their check for full amount due.

BUSINESS LAW IN DAILY USE.

The following compilation of business law contains the essence of a large amount of legal verbiage:

If a note is lost or stolen, it does not release the maker; he must pay it if the consideration for which it was given and the amount can be proven.

Notes bear interest only when so stated.

Each individual in a partnership is responsible for the whole amount of the debts of the firm, except in cases of special partnership.

Ignorance of the law excuses no one.

The law compels no one to do impossibilities.

An agreement without consideration is void.

A note made on Sunday is void.

Contracts made on Sunday cannot be enforced.

A note by a minor is void.

A contract made with a minor is void.

A contract made with a lunatic is void.

A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.

Signatures made with a lead pencil are good in law.

A receipt for money is not always conclusive.

The acts of one partner bind all the rest.

The maker of an "accommodation" bill or note (one for which he has received no consideration, having lent his name or credit for the accommodation of the holder) is not bound to the person accommodated, but is bound to all other parties precisely as if there was a good consideration.

It is a fraud to conceal a fraud

No consideration is sufficient in law if it be illegal in its nature.

Checks or drafts must be presented for payment without unreasonable delay.

If the drawee of a check or draft has changed his residence, the holder must use due or reasonable diligence to find him.

If one who holds a check as payee or otherwise transfers it to another, he has a right to insist that the check be presented that day, or at the furthest on the day following.

A note indorsed in blank (the name of the indorser only written) is transferable by delivery, the same as if made payable by bearer.

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
● New Moon, . .	2d day, oh 50m PM	2d day, 11h 50m AM	2d day, 9h 50m AM
☽ First Quarter, . .	9th day, oh 46m PM	9th day, 11h 46m AM	9th day, 9h 46m AM
○ Full Moon, . . .	16th day, 10h 31m AM	16th day, 9h 31m AM	16th day, 7h 31m AM
☾ Last Quarter, . .	24th day, 8h 8m AM	24th day, 7h 8m AM	24th day, 5h 8m AM
● New Moon, . .	31st day, 11h 2m PM	31st day, 10h 2m PM	31st day, 8h 2m PM

Day of month	Day of week	ASTRONOMY Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. Sun rises H.M.	Sun sets H.M.	Mo'n rises &sets H. M.	Sun slow M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. Sun rises H.M.	Sun sets H.M.	Mo'n rises &sets H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. Sun rises H.M.	Sun sets H.M.	Mo'n rises &sets H. M.
1	Sat	Meteors	4 55	7 12	4 03	3 31	4 32	7 35	3 46	♉ 30	4 27	7 40	3 41
A	Twilight Beg. 1:58 Ends 10:08	3d Sunday After Pentecost (Cath.) 2d Sunday After Trinity (Prot.)								Day's Length	15h 12m		27
2	Sun	☽ Highest ♋	4 55	7 12	sets	3 43	4 33	7 34	sets	♊ 14	4 28	7 40	sets
3	Mon	☿ in Aph.	4 56	7 12	7 58	3 54	4 33	7 34	8 15	27	4 28	7 39	8 19
4	Tues	Independence Day	4 56	7 12	8 46	4 05	4 34	7 34	9 01	♋ 11	4 29	7 39	9 04
5	Wed	(4) ♀ 2° So. of ☽	4 57	7 11	9 30	4 16	4 34	7 34	9 42	24	4 30	7 39	9 44
6	Thur	♀ Gr. El. W.	4 57	7 11	10 12	4 26	4 35	7 33	10 20	♌ 8	4 30	7 39	10 21
7	Fri	The Cross So. 2M	4 58	7 11	10 51	4 36	4 36	7 33	10 54	22	4 31	7 38	10 55
8	Sat	Moon at ♌ (6)	4 58	7 11	11 32	4 46	4 36	7 33	11 31	♍ 6	4 32	7 38	11 31
A	Twilignt Beg. 2:10 Ends 9:59	4th Sunday After Pentecost (Cath.) 3d Sunday After Trinity (Prot.)								Day's Length	15h 6m		28
9	Sun	☽ Perigee	4 59	7 11	morn	4 55	4 37	7 32	morn	20	4 32	7 38	morn
10	Mon	Cephus So. 2M	4 59	7 10	0 10	5 04	4 38	7 32	0 05	♎ 5	4 33	7 37	0 03
11	Tues	♂ 7° So. of ☽	4 59	7 10	0 50	5 12	4 38	7 32	0 42	19	4 34	7 37	0 40
12	Wed	Orangemen's Day	5 00	7 10	1 33	5 20	4 39	7 31	1 21	♏ 3	4 34	7 36	1 18
13	Thur	Aquarius So. 2M	5 01	7 09	2 19	5 28	4 39	7 31	2 04	17	4 35	7 36	2 01
14	Fri	☽ Lowest ♉	5 01	7 09	3 10	5 35	4 40	7 30	2 53	♐ 1	4 36	7 35	2 48
15	Sat	Pegasus So. 2M	5 02	7 09	4 05	5 41	4 40	7 30	3 47	15	4 37	7 34	3 43
A	Twilight Beg. 2:21 Ends 9:49	5th Sunday After Pentecost (Cath.) 4th Sunday After Trinity (Prot.)								Day's Length	14h 56m		29
16	Sun	The Crane So. 2M	5 02	7 08	rises	5 47	4 41	7 29	rises	28	4 38	7 34	rises
17	Mon	Fomalhaut So. 3M	5 03	7 08	7 45	5 52	4 42	7 29	7 59	♑ 11	4 38	7 33	8 03
18	Tues	♐ So. 4M	5 04	7 08	8 35	5 57	4 42	7 28	8 47	23	4 39	7 32	8 50
19	Wed	♌ 10 So. of ☽	5 04	7 07	9 11	6 02	4 43	7 27	9 20	♒ 6	4 40	7 32	9 22
20	Thur	Andromeda So. 4M	5 05	7 07	9 46	6 06	4 44	7 27	9 52	19	4 41	7 31	9 53
21	Fri	Meteors	5 06	7 06	10 17	6 09	4 45	7 26	10 19	♓ 1	4 42	7 30	10 19
22	Sat	Moon at ♍ (19)	5 06	7 06	10 39	6 12	4 45	7 25	10 37	13	4 43	7 29	10 37
A	Twilight Beg. 2:33 Ends 9:38	6th Sunday After Pentecost (Cath.) 5th Sunday After Trinity (Prot.)								Day's Length	14h 44m		30
23	Sun	☽ Apogee	5 07	7 05	11 22	6 14	4 46	7 24	11 17	24	4 44	7 28	11 15
24	Mon	Cassiopeia So. 4M	5 08	7 04	11 55	6 16	4 47	7 23	11 46	♈ 6	4 45	7 27	11 44
25	Tues	St. James	5 08	7 04	morn	6 17	4 48	7 22	morn	18	4 46	7 26	morn
26	Wed	♃ 4° N. of ☽	5 09	7 03	0 31	6 17	4 49	7 21	0 19	♉ 1	4 47	7 25	0 16
27	Thur	Aldebaran oc. by ☽	5 10	7 02	1 11	6 17	4 50	7 19	0 54	13	4 48	7 24	0 53
28	Fri	☽ Highest ♋	5 10	7 02	1 54	6 17	4 51	7 18	1 38	26	4 49	7 23	1 34
29	Sat	(28) ♀ 2° N. of ☽	5 11	7 01	2 45	6 16	4 52	7 18	2 26	♊ 9	4 50	7 22	2 22
A	Twilight Beg. 2:45 Ends 9:27	7th Sunday After Pentecost (Cath.) 6th Sunday After Trinity (Prot.)								Day's Length	14h 31m		31
30	Sun	Pegasus So. 4M	5 11	7 00	3 38	6 14	4 54	7 17	3 20	22	4 50	7 21	3 16
31	Mon	Phœnix So. 4M	5 12	7 00	4 36	6 11	4 55	7 16	4 20	♋ 6	4 51	7 20	4 16

POSTAL REGULATIONS OF CANADA.

Interior Service.

The Interior Postal Service comprehends all objects deposited in a Post Office in Canada to be delivered at an other Post Office in Canada. These objects are divided into four classes:

(1) Letters, Postal Cards and all correspondence, entirely or in part, in writing, by hand or machine, with the exception of the manuscript of books and papers and certain Government documents which belong to the third class.

(2) Newspapers and Periodicals.

(3) Printed matter other than that comprised in the second class. Patterns, samples of merchandise and certain other objects.

(4) Merchandise.

(1) ARTICLES OF THE FIRST CLASS:

(a) The rate on articles of the first class is $0.02 for each ounce or fraction of an ounce.

(b) The rate for Postal Cards is $0.01.

(2) ARTICLES OF THE SECOND CLASS:

The rate on articles of the second class is ½ cent per pound, when mailed by the editor.

(3) ARTICLES OF THE THIRD CLASS:

The rate for articles of the third class is $0.01 for each two ounces or fraction thereof.

(4) ARTICLES OF THE FOURTH CLASS:

The rate on merchandise is $0.01 per ounce or fraction thereof.

Foreign Service.

LETTERS.

(1) The rate on letters addressed to all countries in the Postal Union, with the exception of the United Kingdom, British Possessions, and the United States, is $0.05 per ½ ounce. The rate on Postal Cards is $0.02.

(2) The rate on letters between Canada and the United Kingdom and the British Possessions is $0.02 per ½ ounce.

(3) The rate on letters between Canada and the United States is the same as the domestic rate—$0.02 per ounce or fraction thereof.

FACTS ABOUT CANADA.

Canada is 37 years old, if dated from Confederation.
Canada is 145 years old, if dated from the British Conquest of 1759.
Canada is 371 years old, if dated from Cartier's first visit of 1534.
Quebec is 296 years old.
Montreal is 262 years old.
Halifax is 156 years old.
Toronto is 111 years old.
Winnipeg is 35 years old.
Victoria is 60 years old.
The Hudson's Bay Company is 234 years old.
Confederation, under the name of a federal union, was first suggested in 1809 by R. J. Uniacke, a Nova Scotian legislator.
Of the 33 Fathers of Confederation, only five survive.
Of the 48 Colonies of the Empire, Canada takes the lead.
Canada was the first of England's colonies to ask for and receive self-governing powers.
Canada was the first colony to form a Confederation.
The British North America Act is Canada's Magna Charta.
The twentieth will be Canada's century as the nineteenth was that of the United States.
Forty-two Extradition Treaties of the United Kingdom apply to Canada.
Canada has had 8 Governors-General since Confederation.
Canada has over 700 legislators.
Canada has 1 Peer, 5 Baronets, 2 C.M.G.'s, and 21 K.C.M.G.'s.
Canada contains one-third of the whole area of the British Empire.
The distance from Halifax to Vancouver is greater than the distance from Halifax to London, England.
Canada's population by its first census of 1665 was 3,251.
Canada's population in 1763 was 70,000.
Canada's population, 1901, 5,371,315.
Canada's population to-day, estimated, nearly 6 millions.
Canada began the twentieth century with the same number of people as the United States began the nineteenth.
Canada's population has increased by 11% during each of the last two ten-year census periods.
Canada's population, on this basis of increase, will be 17 millions at the end of the twentieth century.
Canada has 87% of Canadian-born people, viz., 4,671,815.

(Continued on page 30)

Explanation of Signs.

The signs used are as follows: ☌, conjunction or near approach; ☍, opposition or 180° from the Sun; □, quadrature or 90° from the Sun; ☉, Sun; ⊕, Earth; ☿, Mercury; ♀ Venus; ♂, Mars; ♃, Jupiter; ♄, Saturn; ♅, Uranus; ♆, Neptune; ☊, Ascending Node: ☋, Descending Node; ☽, Moon generally.

1905 **EIGHTH MONTH** **AUGUST.** **HAS 31 DAYS**

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ First Quarter, . .	7th day, 5h 16m PM	7th day, 4h 16m PM	7th day, 2h 16m PM
○ Full Moon, . . .	14th day, 10h 31m PM	14th day, 9h 31m PM	14th day, 7h 31m PM
☾ Last Quarter, . .	23d day, 1h 10m AM	23d day, 0h 10m AM	22d day, 10h 10m PM
● New Moon, . . .	30th day, 8h 13m AM	30th day, 7h 13m AM	30th day, 5h 13m AM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises	Sun sets	Mo'n sets & rises	Sun slow	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises	Sun sets	Mo'n sets & rises	Moon's place at 7 PM.		Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises	Sun sets	Mo'n sets & rises
			H.M.	H.M.	H. M.	M. S.	H.M.	H.M.	H. M.			H.M.	H.M.	H. M.
1	Tues	Schedir So. 4M	5 13	6 59	7 20	6 08	4 56	7 15	7 38	♑	20	4 52	7 18	7 41
2	Wed	♅ Gr. El. E.	5 14	6 58	8 10	6 05	4 57	7 14	8 19	♌	4	4 53	7 16	8 21
3	Thur	Caph So. 3:20M	5 14	6 57	8 52	6 01	4 58	7 13	8 57		18	4 55	7 15	8 58
4	Fri	☽ Perigee	5 15	6 56	9 31	5 56	4 59	7 12	9 32	♍	3	4 56	7 14	9 32
5	Sat	(2) ☽ at ☊	5 16	6 55	10 11	5 50	5 00	7 11	10 08		17	4 57	7 13	10 07
A	Twilight	Beg. 2:57 Ends 9:12	**8th Sunday After Pentecost (Cath.) 7th Sunday After Trinity (Prot.)**				Day's Length		14h 14m	**32**				
6	**Sun**	**Transfiguration**	5 16	6 55	10 52	5 44	5 01	7 09	10 45	♎	2	4 58	7 12	10 43
7	Mon	Meteors 6—12	5 17	6 54	11 34	5 38	5 02	7 08	11 22		16	5 00	7 10	11 20
8	Tues	☌ 8° So. of ☽	5 18	6 53	morn	5 30	5 03	7 07	morn		30	5 01	7 09	morn
9	Wed	Algenib So. 3M	5 18	6 52	0 19	5 23	5 04	7 05	0 05	♏	14	5 02	7 08	0 01
10	Thur	Cetus (β) So. 3:26M	5 19	6 51	1 06	5 14	5 05	7 04	0 50		27	5 03	7 07	0 46
11	Fri	☽ **Lowest** ☋	5 20	6 50	1 58	5 05	5 06	7 03	1 40	♐	11	5 04	7 06	1 36
12	Sat	γ Cass So. 3:30M	5 21	6 49	2 53	4 55	5 07	7 01	2 35		24	5 05	7 04	2 31
A	Twilight	Beg. 3:11 Ends 8:56	**9th Sunday After Pentecost (Cath.) 8th Sunday After Trinity (Prot.)**				Day's Length		13h 56m	**33**				
13	**Sun**	(14) ☽ Ecl.	5 21	6 48	3 51	4 45	5 08	7 00	3 35	♑	7	5 06	7 02	3 31
14	Mon	☿ 48′ So. of ♆	5 22	6 47	rises	4 34	5 09	6 59	rises		20	5 07	7 00	rises
15	Tues	♄ 1° So. of ☽	5 23	6 46	7 11	4 23	5 10	6 58	7 21	♒	2	5 08	6 59	7 23
16	Wed	Mirach So. 2:28M	5 23	6 45	7 45	4 11	5 11	6 56	7 51		15	5 09	6 57	7 52
17	Thur	Achernar So 3:54M	5 24	6 43	8 18	3 59	5 12	6 54	8 21		27	5 10	6 56	8 21
18	Fri	Moon at ☋ (15)	5 25	6 42	8 40	3 46	5 13	6 53	8 39	♓	9	5 11	6 55	8 39
19	Sat	(22) Meteors	5 25	6 41	9 22	3 33	5 14	6 52	9 18		21	5 12	6 54	9 17
A	Twilight	Beg. 3:24 Ends 8:42	**10th Sunday After Pentecost (Cath.) 9th Sunday After Trinity (Prot.)**				Day's Length		13h 39m	**34**				
20	**Sun**	☽ Apogee	5 26	6 40	9 53	3 19	5 15	6 51	9 45	♈	2	5 13	6 52	9 44
21	Mon	(23) ☌ ♄ ☉	5 26	6 39	10 29	3 04	5 16	6 49	10 18		14	5 14	6 51	10 15
22	Tues	(23) ♃ 4° N. of ☽	5 27	6 38	11 05	2 50	5 17	6 47	10 52		26	5 15	6 49	10 48
23	Wed	Aldebaran oc. by ☽	5 28	6 37	11 45	2 34	5 18	6 46	11 31	♉	8	5 16	6 47	11 27
24	Thur	St. Bartholomew	5 29	6 35	morn	2 19	5 19	6 44	mo n		21	5 17	6 46	morn
25	Fri	☽ **Highest** ♋	5 29	6 34	0 33	2 03	5 20	6 43	0 16	♊	4	5 18	6 44	0 11
26	Sat	□ ♂ ☉ E.	5 30	6 33	1 24	1 46	5 21	6 41	1 06		17	5 19	6 43	1 02
A	Twilight	Beg. 3:37 Ends 8:25	**11th Sunday After Pentecost (Cath.) 10th Sunday After Trinity (Prot.)**				Day's Length		13h 22m	**35**				
27	**Sun**	♂ 2° N. of ☽	5 31	6 32	2 19	1 30	5 22	6 40	2 02	♋	0	5 20	6 42	1 57
28	Mon	Aries So. 3:30M	5 31	6 31	3 20	1 13	5 23	6 39	3 05		14	5 21	6 40	3 01
29	Tues	□ ♃ ☉ W.	5 32	6 29	4 24	0 55	5 24	6 37	4 12		28	5 22	6 38	4 09
30	Wed	☉ Ecl. ☽ at ☊	5 33	6 28	sets	0 37	5 25	6 35	sets	♌	13	5 23	6 36	sets
31	Thur	Meteors	5 33	6 27	7 29	0 19	5 26	6 33	7 41		28	5 24	6 35	7 44

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ First Quarter, . .	5th day, 11h 9m PM	5th day, 10h 9m PM	5th day, 8h 9m PM
○ Full Moon, . . .	13th day, 1h 10m PM	13th day, 0h 10m PM	13th day, 10h 10m AM
☾ Last Quarter, . .	21st day, 5h 13m PM	21st day, 4h 13m PM	21st day, 2h 13m PM
● New Moon, . . .	28th day, 4h 59m PM	28th day, 3h 59m PM	28th day, 1h 59m PM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M	Sun fast M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.
1	Fri	☽ Perigee	5 34	6 26	8 08	Fast	5 27	6 31	8 06	♍ 13	5 26	6 38	8 05
2	Sat	☽ South 2 E.	5 35	6 24	8 49	0 18	5 28	6 30	8 43	27	5 27	6 31	8 42
		A Twilight { Beg. 3:46 / End 8:14 — **12th Sunday After Pentecost (Cath.)** / **11th Sunday After Trinity (Prot.)** — Day's Length 13h 1m — **36**											
3	**Sun**	Almaach So. 3:10M	5 35	6 23	9 31	0 37	5 29	6 28	9 21	♎ 12	5 28	6 29	9 10
4	Mon	Aries (α) So. 3:11M	5 36	6 22	10 16	0 57	5 30	6 27	10 03	26	5 29	6 28	9 50
5	Tues	♂ 7° S of ☽	5 36	6 20	11 03	1 16	5 31	6 25	10 47	♏ 10	5 30	6 26	10 44
6	Wed	Mira (var.) So. 3M	5 37	6 19	11 55	1 36	5 32	6 24	11 37	24	5 31	6 25	11 33
7	Thur	☽ **Lowest** ♃	5 38	6 18	morn	1 57	5 33	6 22	morn	♐ 8	5 32	6 23	morn
8	Fri	Menkar So. 4M	5 38	6 16	0 40	2 17	5 34	6 20	0 31	21	5 33	6 21	0 27
9	Sat	Algol (var.) So. 4M	5 39	6 15	1 47	2 37	5 35	6 18	1 28	♑ 4	5 34	6 19	1 24
		A Twilight { Beg. 3:54 / Ends 7:59 — **13th Sunday After Pentecost (Cath.)** / **12th Sunday After Trinity (Prot.)** — Day's Length 12h 42m — **37**											
10	**Sun**	(11) ☿ in ♌	5 39	6 14	2 42	2 58	5 36	6 17	2 27	16	5 35	6 17	2 23
11	Mon	♄ 2° So. of ☽	5 40	6 12	3 39	3 19	5 37	6 15	3 27	29	5 36	6 16	3 24
12	Tues	Perseus (α) So. 4M	5 41	6 11	4 35	3 40	5 38	6 14	4 26	♒ 11	5 37	6 14	4 24
13	Wed	7-stars So. 4:15M	5 42	6 10	rises	4 01	5 39	6 12	rises	23	5 38	6 12	rises
14	Thur	Moon at ♉ (12)	5 42	6 08	6 50	4 22	5 40	6 10	6 51	♓ 5	5 39	6 11	6 51
15	Fri	☿ Gr. El. W.	5 43	6 07	7 22	4 44	5 41	6 09	7 19	17	5 40	6 09	7 19
16	Sat	☽ Apogee	5 44	6 06	7 54	5 05	5 42	6 07	7 48	29	5 41	6 07	7 46
		A Twilight { Beg. 4:03 / Ends 7:00 — **14th Sunday After Pentecost (Cath.)** / **13th Sunday After Trinity (Prot.)** — Day's Length 12h 21m — **38**											
17	**Sun**	Meteors	5 44	6 04	8 28	5 26	5 43	6 05	8 19	♈ 11	5 42	6 05	8 10
18	Mon	(19) ♅ 4° N. of ☽	5 45	6 03	9 03	5 47	5 44	6 04	8 51	23	5 43	6 04	8 48
19	Tues	(20) Ald. oc. by ☽	5 46	6 02	9 43	6 09	5 45	6 02	9 28	♉ 5	5 44	6 02	9 24
20	Wed	(21) **St. Matthew**	5 46	6 00	10 26	6 30	5 46	6 00	10 09	17	5 45	6 00	10 05
21	Thur	☽ **Highest** ♋	5 47	5 59	11 13	6 51	5 47	5 59	10 55	29	5 47	5 58	10 51
22	Fri	**Ember Day**	5 48	5 58	morn	7 12	5 48	5 57	11 47	♊ 11	5 48	5 56	11 43
23	Sat	**Ember Day**	5 48	5 56	0 05	7 33	5 49	5 55	morn	25	5 49	5 54	morn
		A Twilight { Beg. 4:12 / Ends 7:31 — **15th Sunday After Pentecost (Cath.)** / **14th Snnday After Trinity (Prot.)** — Day's Length 12h 3m — **39**											
24	**Sun**	(23) Autumn beg.	5 49	5 55	1 02	7 54	5 50	5 54	0 46	♋ 9	5 50	5 53	0 42
25	Mon	Meteors	5 49	5 54	2 03	8 14	5 51	5 52	1 49	22	5 51	5 51	1 45
26	Tues	☿ ½° N. of ☽	5 50	5 52	3 09	8 35	5 52	5 50	2 58	♌ 7	5 52	5 49	2 55
27	Wed	Hyades So. 4M	5 51	5 51	4 15	8 55	5 53	5 48	4 08	21	5 53	5 47	4 06
28	Thur	Moon at ♌ (26)	5 51	5 50	5 23	9 15	5 54	5 47	5 21	♍ 6	5 54	5 45	5 20
29	Fri	☽ Per. **Michaelmas**	5 52	5 48	sets	9 35	5 55	5 45	sets	20	5 55	5 43	sets
30	Sat	Capella So. 4:30M	5 53	5 47	7 25	9 54	5 56	5 43	7 16	♎ 17	5 56	5 42	7 14

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ First Quarter, . .	5th day, 7h 54m AM	5th day, 6h 54m AM	5th day, 4h 54m AM
● Full Moon, . . .	13th day, 6h 02m AM	13th day, 5h 02m AM	13th day, 3h 02m AM
☾ Last Quarter, . .	21st day, 7h 50m AM	21st day, 6h 50m AM	21st day, 4h 50m AM
○ New Moon, . . .	28th day, 1h 58m AM	28th day, 0h 58m AM	27th day, 10h 58m PM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M	Sun fast M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.
A Twilight { Beg. 4:22 Ends 7:16		**16th Sunday After Pentecost (Cath.)** / **15th Sunday After Trinity (Prot.)**								Day's Length	11h 45m	**40**	
1	Sun	Meteors	5 54	5 46	8 08	10 14	5 57	5 42	7 56	♎ 22	5 57	5 40	7 53
2	Mon	Meteors	5 54	5 44	8 57	10 33	5 58	5 40	8 42	♏ 6	5 58	5 38	8 39
3	Tues	(4) ♂ 6° S. of ☽	5 55	5 43	9 49	10 51	5 59	5 38	9 32	21	5 59	5 36	9 27
4	Wed	☽ **Lowest** ♉	5 56	5 42	10 45	11 10	6 00	5 37	10 26	♐ 4	6 00	5 35	10 22
5	Thur	Meteors	5 56	5 40	11 39	11 28	6 01	5 35	11 21	18	6 01	5 33	11 17
6	Fri	Alpheratz So. 11 E	5 57	5 39	morn	11 46	6 02	5 33	morn	♑ 1	6 03	5 31	morn
7	Sat	(8) ♄ 2° S. of ☽	5 58	5 38	0 36	12 03	6 03	5 32	0 21	13	6 04	5 30	0 17
A Twilight { Beg. 4:32 Ends 7:02		**17th Sunday After Pentecost (Cath.)** / **16th Sunday After Trinity (Prot.)**								Day's Length	11h 23m	**41**	
8	Sun	♂ 10 48° S. of ♅	5 58	5 36	1 33	12 20	6 04	5 30	1 20	26	6 05	5 28	1 16
9	Mon	Cassiopeia So. 11 E	5 59	5 35	2 30	12 37	6 05	5 29	2 20	♒ 9	6 07	5 27	2 17
10	Tues	Pegasus So. 11 E	6 00	5 34	3 25	12 53	6 06	5 28	3 18	20	6 08	5 25	3 16
11	Wed	Moon at ♉ (9)	6 01	5 33	4 19	13 08	6 07	5 26	4 16	♓ 2	6 09	5 23	4 15
12	Thur	Meteors	6 01	5 32	5 13	13 24	6 08	5 24	5 13	14	6 10	5 21	5 13
13	Fri	Phœnix So. 11 E	6 02	5 30	rises	13 38	6 09	5 22	rises	26	6 11	5 20	rises
14	Sat	☽ Apogee	6 03	5 29	6 28	13 53	6 11	5 21	6 20	♈ 8	6 12	5 19	6 18
A Twilight { Beg. 4:40 Ends 6:50		**18th Sunday After Pentecost (Cath.)** / **17th Sunday After Trinity (Prot.)**								Day's Length	11h 4m	**42**	
15	Sun	☿ in Per.	6 04	5 28	7 04	14 06	6 12	5 19	6 52	20	6 13	5 17	6 49
16	Mon	(17) ♅ 4° N. of ☽	6 04	5 27	7 41	14 19	6 13	5 18	7 26	♉ 2	6 15	5 16	7 23
17	Tues	Aldebaran oc by ☽	6 05	5 26	8 21	14 32	6 14	5 16	8 05	14	6 16	5 15	8 01
18	Wed	**St Luke**	6 06	5 24	9 07	14 44	6 15	5 15	8 49	26	6 17	5 13	8 45
19	Thur	☽ **Highest**	6 07	5 28	9 56	14 55	6 16	5 13	9 39	♊ 8	6 18	5 12	9 34
20	Fri	Cassiopeia So. 10 E	6 07	5 22	10 50	15 06	6 17	5 12	10 33	21	6 19	5 10	10 28
21	Sat	Meteors	6 09	5 21	11 47	15 16	6 18	5 11	11 32	♋ 4	6 20	5 08	11 28
A Twilight { Beg. 4:47 Ends 6:40		**19th Sunday After Pentecost (Cath.)** / **18th Sunday After Trinity (Prot.)**								Day's Length	10h 45m	**43**	
22	Sun	Cetus So. 10 E	6 08	5 20	morn	15 25	6 20	5 10	morn	17	6 21	5 06	morn
23	Mon	Andromeda S. 11 E	6 10	5 19	0 48	15 34	6 21	5 08	0 36	♋ 1	6 23	5 05	0 33
24	Tues	Gt. Bear So. 11 E	6 10	5 18	1 52	15 42	6 22	5 06	1 43	15	6 24	5 03	1 41
25	Wed	(26) ♀ 10° S. of ☽	6 11	5 17	2 59	15 48	6 23	5 05	2 53	29	6 26	5 02	2 52
26	Thur	Moon at ♋ (23)	6 12	5 16	4 06	15 55	6 24	5 04	4 05	♍ 14	6 27	5 01	4 05
27	Fri	☽ Perigee	6 13	5 15	5 16	16 01	6 25	5 02	5 20	30	6 28	5 00	5 21
28	Sat	Simon and Jude	6 14	5 14	sets	16 06	6 26	5 01	sets	♎ 15	6 29	4 58	sets
A Twilight { Beg. 4:54 Ends 6:29		**20th Sunday After Pentecost (Cath.)** / **19th Sunday After Trinity (Prot.)**								Day's Length	10h 27m	**44**	
29	Sun	Eridanus So. 11 E	6 15	5 13	6 44	16 10	6 27	5 00	6 30	♏ 0	6 30	4 57	6 27
30	Mon	Aries So. 11 E	6 15	5 12	7 35	16 14	6 29	4 59	7 18	15	6 31	4 56	7 14
31	Tues	Halloween	6 16	5 11	8 33	16 17	6 30	4 57	8 16	30	6 31	4 55	8 11

*VALUE OF FOREIGN COINS, OCTOBER 1, 1903.

Countries.	Standard.	Monetary unit.	Value in terms of U.S. gold dollar.	Coins.
Argentine Republic	Gold	Peso	$0.965	Gold: argentine ($4.824) and ½ argentine. Silver: peso and parts.
Austria-Hungary	Gold	Crown	.203	†Gold: 20 crowns ($4.052); 10 crowns ($2.026).
Belgium	Gold	Franc	.193	Gold: 10 and 20 francs. Silver: 5 francs.
Bolivia	Silver	Boliviano	.408	Silver: boliviano and divisions.
Brazil	Gold	Milreis	.546	Gold: 5, 10 and 20 milreis. Silver: ½, 1 and 2 milreis.
British N. A. (except Newfoundland)	Gold	Dollar	1.000	
Central America— Costa Rica	Gold	Colon	.465	Gold: 2, 5, 10 and 20 colons ($9.307). Silver: 5, 10, 25 and 50 centimos.
British Honduras	Gold	Dollar	1.000	
Guatemala, Honduras, Nicaragua and Salvador	Silver	Peso	.408	Silver: peso and divisions.
Chili	Gold	Peso	.365	Gold: escudo ($1.825), doubloon ($3.650), and condor ($7.300). Silver: peso and divisions.
§China	Silver	Tael	——	
Colombia	Silver	Peso	.408	Gold: condor ($9.647) and double condor. Silver: peso.
Cuba	Gold	Peso	.926	Gold: Doubloon Isabella, centen ($5.017), Alphonse ($4.823). Silver: peso.
Denmark	Gold	Crown	.268	Gold: 10 and 20 crowns.
Ecuador	Gold	Sucre	.487	Gold: 10 sucres ($4.8665). Silver: sucre and divisions.
Egypt	Gold	Pound	4.943	Gold: pound (100 piastres), 5, 10, 20 and 50 piastres. Silver: 1, 2, 5, 10 and 20 piastres.
Finland	Gold	Mark	.193	Gold: 20 marks ($3.859), 10 marks ($1.93).
France	Gold	Franc	.193	Gold: 5, 10, 20, 50 and 100 francs. Silver: 5 francs.
German Empire	Gold	Mark	.238	Gold: 5, 10 and 20 marks.
Great Britain	Gold	Pd. Sterling	4.866½	Gold: sovereign (pound sterling) and ½ sovereign.
Greece	Gold	Drachma	.193	Gold: 5, 10, 20, 50 and 100 drachmas. Silver: 5 drachmas.
Hayti	Gold	Gourde	.965	Gold: 1, 2, 5 and 10 gourdes. Silver: gourde and divisions.
India	Gold	‡Pd. Sterling	4.866½	Gold: sovereign (pound sterling). Silver: rupee and divisions.
Italy	Gold	Lira	.193	Gold: 5, 10, 20, 50 and 100 lire. Silver: 5 lire.
Japan	Gold	Yen	.498	Gold: 5, 10 and 20 yen. Silver: 10, 20 and 50 sen.
Liberia	Gold	Dollar	1.000	
Mexico	Silver	Dollar	.443	Gold: dollar ($0.983), 2½, 5, 10 and 20 dollars. Silver: dollar (or peso) and divisions.
Netherlands	Gold	Florin	.402	Gold: 10 florins. Silver: ½, 1 and 2½ florins.
Newfoundland	Gold	Dollar	1.014	Gold: 2 dollars ($2.027).
Norway	Gold	Crown	.268	Gold: 10 and 20 crowns.
Persia	Gold	Kran	.075	Gold: ½, 1 and 2 tomans ($3.409). Silver: ¼, ½, 1, 2 and 5 krans.
Peru	Gold	Sol	.487	Gold: libra ($4.8665). Silver: sol and divisions.
Portugal	Gold	Milreis	1.080	Gold: 1, 2, 5 and 10 milreis.
Russia	Gold	Ruble	.515	Gold: imperial, 15 rubles ($7.718), and ½ imperial, 7½ rubles ($3.859). Silver: ¼, ½ and ruble.
Spain	Gold	Peseta	.193	Gold: 25 pesetas. Silver: 5 pesetas.
Sweden	Gold	Crown	.268	Gold: 10 and 20 crowns.
Switzerland	Gold	Franc	.193	Gold: 5, 10, 20, 50 and 100 francs. Silver: 5 francs.
Turkey	Gold	Piastre	.044	Gold: 25, 50, 100, 250 and 500 piastres.
Uruguay	Gold	Peso	1.034	Gold: peso. Silver: peso and parts.
Venezuela	Gold	Bolivar	.193	Gold: 5, 10, 20, 50 and 100 bolivars. Silver: 5 bolivars.

MOON'S PHASES	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ First Quarter, . .	3d day, 8h 39m PM	3d day, 7h 39m PM	3d day, 5h 39m PM
○ Full Moon, . . .	12th day, 0h 11m AM	11th day, 11h 11m PM	11th day, 9h 11m PM
☾ Last Quarter, . .	19th day, 8h 34m PM	19th day, 7h 34m PM	19th day, 5h 34m PM
● New Moon, . . .	26th day, 11h 47m AM	26th day, 10h 47m AM	26th day, 8h 47m AM

Day of month.	Day of week.	ASTRONOMY Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.	Sun fast M. S.	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.	Moon's place at 7 PM	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. Sun rises H.M.	Sun sets H.M.	Mo'n sets & rises H. M.
1	Wed	☽ **Lowest** ♋	6 17	5 10	9 28	16 18	6 31	4 56	9 11	♐ 14	6 33	4 54	9 06
2	Thur	All Souls' Day	6 18	5 09	10 27	16 20	6 32	4 55	10 10	27	6 34	4 53	10 06
3	Fri	(2) ☌ 5° So. of ☽	6 19	5 08	11 26	16 20	6 33	4 54	11 11	♑ 10	6 36	4 51	11 08
4	Sat	Almaach So. 11E	6 20	5 07	noon	16 20	6 35	4 53	morn	23	6 37	4 50	morn
A	Twilight	Beg. 5:04 Ends 6:23	**21st Sunday After Pentecost (Cath.)** **20th Sunday After Trinity (Prot.)**							Day's Length	10h 11m		**45**
5	**Sun**	♄ 1° So. of ☽	6 21	5 06	0 24	16 18	6 36	4 52	0 12	♒ 5	6 38	4 49	0 09
6	Mon	M.ra (var.) So. 11 E	6 22	5 06	1 21	16 16	6 37	4 50	1 12	17	6 39	4 48	1 10
7	Tues	(8) ☌ in Per.	6 23	5 05	2 15	16 13	6 38	4 49	2 10	29	6 40	4 46	2 08
8	Wed	Moon at ♉ (5)	6 24	5 04	3 09	16 10	6 39	4 48	3 07	♓ 11	6 41	4 45	3 07
9	Thur	Meteors	6 24	5 03	4 01	16 05	6 40	4 47	4 03	23	6 42	4 44	4 03
10	Fri	☽ Apogee	6 25	5 02	4 54	16 00	6 42	4 46	4 57	♈ 5	6 44	4 43	5 01
11	Sat	Meteors 11-15	6 26	5 02	5 36	15 54	6 43	4 45	5 47	17	6 46	4 42	5 47
A	Twilight	Beg. 5:13 Ends 6:17	**22d Sunday After Pentecost (Cath.)** **21st Sunday After Trinity (Prot.)**							Day's Length	9h 54m		**46**
12	**Sun**	(13) ♃ 4° N. of ☽	6 27	5 01	rises	15 47	6 44	4 44	rises	29	6 47	4 41	rises
13	Mon	Aldebaran oc. by ☽	6 28	5 00	6 21	15 39	6 45	4 43	6 05	♉ 11	6 49	4 40	6 02
14	Tues	Algol (var) So. 11E	6 29	5 00	7 05	15 30	6 46	4 43	6 47	23	6 50	4 39	6 43
15	Wed	☽ **Highest** ♋	6 30	4 59	7 52	15 21	6 47	4 42	7 35	♊ 5	6 51	4 38	7 30
16	Thur	Perseus So. 11E	6 31	4 59	8 43	15 10	6 48	4 41	8 26	17	6 52	4 38	8 21
17	Fri	7-Stars So. 12E	6 32	4 58	9 39	14 59	6 50	4 40	9 23	♋ 0	6 53	4 37	9 19
18	Sat	(19) □ ♄ ☉ E.	6 33	4 58	10 38	14 47	6 51	4 40	10 24	13	6 55	4 36	10 21
A	Twilight	Beg. 5:20 Ends 6:12	**23d Sunday After Pentecost (Cath.)** **22d Sunday After Trinity (Prot.)**							Day's Length	9h 39m		**47**
19	**Sun**	Regulus oc. by ☽	6 34	4 57	11 3	14 34	6 52	4 39	11 28	26	6 56	4 35	11 25
20	Mon	Hyades So. 12E	6 34	4 57	morn	14 20	6 53	4 38	morn	♌ 10	6 58	4 35	morn
21	Tues	24-28 Meteors	6 35	4 56	0 42	14 05	6 55	4 38	0 35	24	6 59	4 34	0 33
22	Wed	Moon at ♌ (19)	6 36	4 56	1 45	13 50	6 56	4 37	1 42	♍ 8	7 00	4 33	1 42
23	Thur	(24) ♀ 3° So. of ☽	6 37	4 56	2 52	13 33	6 57	4 37	2 53	23	7 01	4 33	2 53
24	Fri	☌ ♃ ☉ °	6 38	4 56	4 00	13 16	6 58	4 36	4 06	♎ 8	7 02	4 32	4 07
25	Sat	☽ Perigee	6 39	4 55	5 11	12 58	6 59	4 36	5 22	23	7 03	4 32	5 24
A	Twilight	Beg. 5:26 Ends 6:09	**24th Sunday After Pentecost (Cath.)** **23d Sunday After Trinity (Prot.)**							Day's Length	9h 28m		**48**
26	**Sun**	♀ Gr. El. E.	6 40	4 55	6 20	12 40	7 00	4 36	6 34	♏ 8	7 04	4 32	6 37
27	Mon	Capellá So. 2M	6 41	4 55	sets	12 20	7 01	4 35	sets	23	7 05	4 31	sets
28	Tues	☽ **Lowest** ♋	6 42	4 54	7 10	12 00	7 02	4 35	6 52	♐ 8	7 06	4 31	6 48
29	Wed	Orion So. 1M	6 42	4 54	8 12	11 39	7 03	4 34	7 54	22	7 07	4 31	7 50
30	Thur	Thanksgiving Day	6 43	4 54	9 12	11 18	7 04	4 34	8 57	♑ 6	7 08	4 31	8 53

MOON'S PHASES.	EASTERN TIME	CENTRAL TIME	PACIFIC TIME
☽ First Quarter, . .	3d day, 1h 37m PM	3d day, 0h 37m PM	3d day, 10h 37m AM
○ Full Moon, . . .	11th day, 6h 25m PM	11th day, 5h 25m PM	11th day, 3h 25m PM
☾ Last Quarter, . .	19th day, 7h 8m AM	19th day, 6h 8m AM	19th day, 4h 8m AM
● New Moon, . . .	25th day, 11h 3m PM	25th day, 10h 3m PM	25th day, 8h 3m PM

Day of month	Day of week	ASTRONOMY — Church Days, Holidays, Shooting Star or Meteor Nights, Etc.	Charleston, N. Car., Miss., Geo., Ala., Ark., N. Mex. and S. Cal. — Sun rises	Sun sets	Mo'n sets & rises	Sun fast	N. York, New Eng., N. J., Conn., Pa., Ohio, Ind., Ill., Neb. & N. Cal. — Sun rises	Sun sets	Mo'n sets & rises	Moon's place at 7 PM.	Chicago, Iowa, Neb., N.Y., Pa., S. Wis., S. Mich. N. Ill., Ind., O. — Sun rises	Sun sets	Mo'n sets & rises
			H. M.	H. M.	H. M.	M. S.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.
1	Fri	♂ 2° So. of ☽	6 44	4 54	10 13	10 56	7 05	4 34	10 00	♑ 19	7 09	4 30	9 57
2	Sat	♄ 1° So. of ☽	6 45	4 54	11 10	10 33	7 06	4 34	11 00	♒ 1	7 10	4 30	10 58
A		Twilight Beg. 5:45 Ends 6:07 — **Advent Sunday** — Day's Length 9h 19m											**49**
3	Sun	El Nath So. 12:31E	6 46	4 54	morn	10 10	7 07	4 33	morn	14	7 11	4 30	12 00
4	Mon	Eil & Yard S 12:30E	6 46	4 54	0 07	9 46	7 08	4 33	0 01	26	7 12	4 30	morn
5	Tues	Moon at ♉ (2)	6 47	4 54	1 02	9 21	7 09	4 33	1 00	♓ 8	7 13	4 30	0 59
6	Wed	6-13 Meteors	6 48	4 54	1 54	8 56	7 10	4 33	1 55	20	7 14	4 29	1 55
7	Thur	☽ Apogee	6 49	5 54	2 47	8 30	7 11	4 33	2 52	♈ 1	7 15	4 29	2 53
8	Fri	Phaet So. 11:27 E	6 50	4 54	3 39	8 04	7 12	4 33	3 47	13	7 16	4 29	3 49
9	Sat	(10) ♅ 4° N. of ♑	6 51	4 54	4 32	7 38	7 13	4 33	4 43	25	7 17	4 29	4 46
A		Twilight Beg. 5:39 Ends 6:08 — **2d Sunday in Advent** — Day's Length 9h 13m											**50**
10	Sun	Aldebaran oc. by ☽	6 51	4 54	5 26	7 11	7 13	4 33	5 40	♉ 7	7 17	4 30	5 43
11	Mon	Meteors	6 52	4 54	rises	6 43	7 14	4 33	rises	20	7 18	4 30	rises
12	Tues	☽ **Highest** ♋	6 53	4 55	5 49	6 16	7 15	4 33	5 31	♊ 2	7 18	4 30	5 27
13	Wed	Orion So. 12E	6 54	4 55	6 40	5 48	7 16	4 34	6 22	14	7 19	4 30	6 18
14	Thur	Betelgeuse So. 22E	6 54	4 55	7 34	5 19	7 17	4 34	7 17	27	7 20	4 30	7 12
15	Fri	Auriga So. 12E	6 55	4 55	8 32	4 50	7 18	4 34	8 17	♋ 10	7 21	4 30	8 14
16	Sat	Canopus So 12:40E	6 55	4 56	9 31	4 21	7 18	4 35	9 19	23	7 22	4 30	9 16
A		Twilight Beg. 5:44 Ends 6:09 — **3d Sunday in Advent** — Day's Length 9h 9m											**51**
17	Sun	Regulus oc. by ☽	6 56	4 56	10 33	3 52	7 19	4 35	10 25	♌ 6	7 22	4 31	10 23
18	Mon	Gemini (γ) So. 1M	6 57	4 57	11 35	3 23	7 20	4 35	11 30	20	7 23	4 31	11 29
19	Tues	Moon at ♌ (16)	6 57	4 57	morn	2 53	7 20	4 36	morn	♍ 4	7 23	4 31	morn
20	Wed	**Ember Day**	6 58	4 58	0 38	2 23	7 21	4 36	37	18	7 24	4 32	0 37
21	Thur	**St. Thomas**	6 58	4 58	1 43	1 53	7 21	4 37	1 47	♎ 2	7 24	4 32	1 48
22	Fri	**Ember Day**	6 59	4 58	2 49	1 23	7 21	4 38	2 58	17	7 25	4 33	3 00
23	Sat	☽ Perigee, **E. Day**	6 59	4 59	3 58	0 53	7 22	4 38	4 10	♏ 2	7 26	4 34	4 13
A		Twilight Beg. 5:47 Ends 6:10 — **4th Sunday in Advent** — Day's Length 9h 8m											**52**
24	Sun	♀ 4° So. of ☽	7 00	5 00	5 06	0 23	7 22	4 39	5 21	17	7 26	4 34	5 25
25	Mon	♂ ½° N. of ♄	7 00	5 00	6 12	0 07	7 23	4 39	6 30	♐ 1	7 27	4 35	6 34
26	Tues	☽ **Lowest** ♒	7 01	5 01	sets	slow	7 23	4 40	sets	16	7 27	4 36	sets
27	Wed	**St. John.** Meteors	7 01	5 01	6 53	1 07	7 23	4 41	6 36	♑ 30	7 27	4 36	6 32
28	Thur	**Holy Innocents**	7 01	5 02	7 56	1 36	7 24	4 42	7 41	13	7 28	4 37	7 38
29	Fri	☽ at ♉ (30) ♂ ♆ ☉	7 02	5 03	8 56	2 06	7 24	4 42	8 44	26	7 28	4 38	8 41
30	Sat	♄ occulted by ☽	7 02	5 03	9 55	2 34	7 24	4 43	9 47	♒ 9	7 28	4 39	9 45
A		Twilight Beg. 5:50 Ends 6:11 — **1st Sunday After Christmas** — Day's Length 9h 11m											**53**
31	Sun	♂ occulted by ☽	7 02	5 04	10 52	3 04	7 24	4 43	10 45	22	7 28	4 39	10 44

What to Do in Case of Accidents.

Always send for a physician when a serious accident of any kind occurs, but treat as directed until his arrival.

For Apoplexy, raise the head and body; for fainting, lay the person flat.

If an Artery is cut, compress it above the wound. Blood from an artery is red; that from the veins dark.

If Choked, get down on all fours and cough.

For slight Burns, hold the wound in cold water a short time; if the skin is destroyed, cover with linseed oil.

Scalds and Burns.—Exclude the air from the injured part, using for this purpose sheets of wadding, fine wool, carded cotton, baking soda, violet powder, magnesia or chalk. Olive oil and white of egg, olive or linseed oil plain or mixed with chalk or whiting, are common remedies. The principal object is to exclude the air from the burn or scald in the quickest and least painful way.

Body in Flames.—Lay the person on the floor and throw rug, table cover or other large cloth over him and roll him on the floor.

Lightning or Sunstroke.—Loosen the clothing, place the patient in shady place and apply cold water to the head. Keep the head slightly elevated.

Mad Dog or Snake Bite.—Tie a cord tightly above the wound. Give brandy, whiskey or other stimulants. Suck the wound, cauterize it with caustic or white hot iron, or cut out adjoining parts with a knife. Act quickly.

Dirt or Cinders in the Eye.—Nothing is better than flaxseed. Place a few grains in the outer corner of the eye.

Escape from a Burning Building.—Crawl on the floor; the clearest air is the lowest in the room. Cover your head with a wet woollen wrap, in which holes may be cut for the eyes. Keep your wits.

Suffocation from Inhaling Gas.—Get the patient into fresh air as quickly as possible, place him in a reclining position and keep him warm. Give twenty drops of ammonia in a glass of water at frequent intervals, and two to four drops of nux vomica every hour or two for five or six hours.

Bleeding from the Nose.—Place a plug of lint in the nostrils; if this fails to stop the bleeding, apply a cold lotion to the forehead; raise the head and place both arms over it so that it will rest on the hands; moisten the lint plug slightly, dip it in some powdered gum arabic and alum and place in the nose. Apply heat to the feet. In obstinate cases the sudden shock of a cold key, or cold water poured down the spine, will sometimes instantly stop the bleeding.

Choking.—If a fishbone is lodged in the throat insert the forefinger, press on the root of the tongue, so as to induce vomiting; if this fails, swallow a large piece of soft bread or potato; in obstinate cases take a teaspoonful of mustard in warm water as an emetic.

ANTIDOTES FOR POISONS.

Send for a physician.

Induce vomiting, by tickling throat with feather or finger, and drinking hot water or strong mustard and water. Swallow oil or whites of eggs.

Acids, muriatic, oxalic, acetic, sulphuric (oil of vitrol), **nitric** (aqua-fortis). Soap suds, magnesia, lime water.

Prussic acid. Ammonia in water. Dash water in face.

Carbolic acid. Flour and water. Mucilaginous drinks.

Alkalies. Such as potash, lye, hartshorn, ammonia. Vinegar or lemon juice in water.

Arsenic, rat poison, paris green. Milk, raw eggs, sweet oil, lime water, flour and water.

Bug poison, lead, saltpetre, corrosive sublimate, sugar of lead, blue vitrol. Whites of eggs or milk in very large forced doses.

Chloroform, chloral, ether. Cold water on head and chest. Vigorous exercise. Artificial respiration. Ice in rectum.

Carbonate of soda, copperas, cobalt. Soap suds and mucilaginous drinks.

Iodine, antimony, tartar emetic. Starch and water. Astringents. Strong tea, tannin.

Mercury and its salts. Whites of eggs, milk, mucilages.

Nitrate of silver, lunar caustic. Salt and water.

Opium, morphine, laudanum, paregoric, so-called soothing powders, and soothing syrups. Strong coffee, hot bath. Keep awake and in motion.

Strychnine, tincture of nux vomica. Mustard and water, sulphate of zinc. Absolute quiet. Stop up the ears.

Arsenic. Tincture of iron, magnesia, milk, chalk and water.

Carbolic acid. Powdered chalk, Epsom salts, milk, white of egg.

Alcohol. Emetics, cold water in large, forced draughts. Strong coffee.

Gas. Pure air. Ammonia to nostrils. Ether. Warm water internally. Artificial respiration.

Poison ivy or oak. Bathe the parts in rich cream or with chloro naphtholeum, phenol sodique, or baking soda.

SINGER WORK IS ALWAYS GOOD WORK

This is why Singer machines maintain their supremacy all over the world, making the Singer trade-mark a reliable standard of highest excellence.

What Housekeepers Should Remember.

That cold rain water and soap will remove machine grease from washable fabrics.

That fish may be scaled much easier by first dipping them into boiling water for a minute.

That fresh meat beginning to sour will sweeten if placed out of doors in the cool air over night.

That milk which has changed may be sweetened or rendered fit for use again by stirring in a little soda.

That boiling starch is much improved by the addition of sperm or salt, or both, or a little gum arabic dissolved.

That a tablespoonful of turpentine, boiled with your white clothes, will greatly aid the whitening process.

That kerosene will soften boots and shoes that have been hardened by water, and will render them as pliable as new.

That thoroughly wetting the hair once or twice with a solution of salt and water will keep it from falling out.

That salt fish are quickest and best freshened by soaking in sour milk.

That one teaspoonful of ammonia to a teacup of water applied with a rag will clean silver or gold jewelry perfectly.

That salt will curdle new milk; hence, in preparing porridge, gravies, etc., salt should not be added until the dish is prepared.

That paint stains that are dry and old may be removed from cotton or woollen goods with chloroform. It is a good plan to first cover the spot with olive oil or butter.

That clear boiling water will remove tea stains; pour the water through the stain and thus prevent its spreading over the fabric.

That charcoal is recommended as an absorber of gases in the milk room where foul gases are present. It should be freshly powdered and kept there continually, especially in hot weather, when unwholesome odors are most liable to infect the milk.

That by applying kerosene with a rag when you are about to put your stoves away for the summer you will prevent them from rusting. Treat your farming implements in the same way before you lay them aside in the fall.

That a teaspoonful of borax put in the last water in which clothes are rinsed will whiten them surprisingly. Pound the borax so it will dissolve easily. This is especially good to remove the yellow that time gives to white garments that have been laid aside for two or three years.

That a good agency for keeping the air of the cellar sweet and wholesome is whitewash made of good white lime and water only. The addition of glue or size, or anything of this class, is only a damage by furnishing organic matter to speedily putrefy. The use of lime in whitewash is not simply to give a white color, but it greatly promotes the complete oxidation of effluvia in the cellar air. Any vapors that contain combined nitrogen in the unoxidized form contribute powerfully to the development of disease germs.

Weights and Measures for Cooks, etc.

1 pound of Wheat Flour is equal to 1 quart
1 pound and 2 ounces of Indian Meal make .....1 quart
1 pound of Soft Butter is equal to..1 quart
1 pound and 2 ounces of Best Brown Sugar make .....1 quart
1 pound and 1 ounce of Powdered White Sugar make.....1 quart
1 pound of Broken Loaf Sugar is equal to .....1 quart
4 Large Tablespoonfuls make.....½ gill
1 Common-sized Tumbler holds.....½ pint
1 Common-sized Wineglass is equal to ½ gill
1 Teacup holds .....1 gill
1 Large Wineglass holds.....2 ounces
1 Tablespoonful is equal to.....½ ounce

Cure for Drunkenness.

There is a famous prescription in use in England for the cure of drunkenness by which thousands are said to have been assisted in recovering themselves. The prescription came into notoriety through the efforts of John Vine Hall, commander of the Great Eastern steamship. He had fallen into such habitual drunkenness that his most earnest efforts to reclaim himself proved unavailing. At length he sought the advice of an eminent physician, who gave him a prescription which he followed faithfully for seven months. At the end of that time he had lost all desire for liquor, although he had been for many times led captive by a most debasing appetite. The prescription, which he afterward published, and by which so many drunkards have been assisted to reform, is as follows:

Sulphate of iron, five grains; magnesia, ten grains; peppermint water, eleven drams; spirit of nutmeg, one dram, twice a day. This preparation acts as a tonic and stimulant, and so partially supplies the place of the accustomed liquor, and prevents that absolute physical and moral prostration that follows a sudden breaking off from the use of stimulating drinks.

THE BEST NEEDLES

FOR ALL MAKES of Sewing-Machines are made by THE SINGER MANUFACTURING CO. and sold at Singer Stores in every city

Price, 20 Cents per Dozen

Canada has 8% of British-born people, viz., 405,883.
Canada has therefore 95% of British subjects, viz., 5,077,698.
Canada has only 5% of foreign-born population, viz., 293,617.
One out of every 3½ enrolled in the census is of French descent.
1,649,371 out of 5,371,375 are of French descent.
Quebec Province is the home of 1,322,115 of French descent.
Quebec has only 290,000 of British descent.
Ontario has 150,000 of French descent.
The Maritime Provinces have nearly 150,000 of French descent.
There are 10,000 of French descent in the Canadian West.
Canada received 123,364 immigrants in 1903.
Canada has received 244,892, immigrants in the last three years.
Canada's immigration for 1903 was nearly double that for 1902.
Canada received in 1903, 41,792 from Great Britain, and 49,473 from the United States.
60% of the immigration of 1903 was agricultural in its character.
Two-thirds of the immigrants of 1903 speak English.
Canada paid $5.02 per head to bring in, care for and locate the 1903 immigrants.
Canada will probably receive 150,000 immigrants during 1904.
Each immigrant is estimated to be worth $1,000 to Canada.
The 123,000 Americans who came to the West during the past five years represented 25,000 heads of families.
Ohey brought in cash and settlers' effects totalling 43 millions—an average of $360 per head.
Of the 123,000, 50,000 came in during 1903.
Canada has 19,000 public schools.
Canada's public schools are attended by 1,105,000 pupils.
Canada spends 12 millions annually on her public schools.
Canada has 17 Universities and 53 Colleges.
These 70 educational institutions are attended by 15,000 students.
80% of all adults in Canada can write.
70% of all the people in Canada can read.
Mount Hooker is the highest mountain in Canada —16,760 feet.
Hudson's Bay is 600 miles wide and 1,300 miles from north to south.
Hudson's Bay would include Norway, Sweden, Denmark and Belgium.
Lake Superior is the largest fresh water lake in the world.
Lake Superior is as long as from Montreal to London, Ont.
Lake Superior would hold two Switzerlands.
Great Bear and Great Slave Lakes are each larger than Vermont.
Lake Winnipeg covers a greater area than Maryland.
The tide of the Bay of Fundy reaches 50 feet.
The Douglas pines of British Columbia reach a height of 300 feet.
Canada's biggest and largest bridge is the Victoria Jubilee Bridge at Montreal.
Canada's highest waterfall is the Takkakau, 1,200 feet, in the Rockies.
Canada's largest city is Montreal.
Sir Wilfrid Laurier is 63 years old.
Sir Richard Cartwright is 69 years old.
Goldwin Smith is in his 80th year.
Sir Charles Tupper is in his 83rd year.
Lord Strathcona is in his 83rd year.
Senator Wark, at 100, is the oldest legislator in Canada or the Empire.
Sir John A. Macdonald has been dead 13 years.
Alexander Mackenzie has been dead 12 years.
Thomas D'Arcy Magee was assassinated April 7, 1868.
McGill College was founded by Hon. Mr. McGill in 1813.
William Lyon Mackenzie was the first Mayor of Toronto.
Sir Isaac Brook is buried at Queenston Heights.
General Wolfe is buried at Greenwich, Eng.
Lieutenant-Governor Simcoe is buried in Exeter Cathedral.
King Edward visited Canada as Prince of Wales in 1860.
10,000 United Empire Loyalists entered Upper Canada.
5,000 Acadians were exiled in 1755.
The first census of Canada was taken in 1665.
The first brewery was built in Canada by Talon in Quebec in 1668.
First apples grown in Canada, in Nova Scotia, in 1633.
First colonization enterprise, 1605, when de Poutrincourt settled Port Royal with settlers from Europe.
Manitoba first settled in 1811 by 125 Scotch settlers brought out by Lord Selkirk.
The beaver first appears as an emblem of Canada on a coat-of-arms granted by Charles I. to Sir William Alexander.
First newspaper published in British North America was the Halifax Gazette, March 23, 1752.
First settlement in Quebec in 1618.
First lighthouse built in Canada, at Louisbourg, 1734.
First Roman Catholic Bishop of Canada was M. de Laval, 1659.
First Catholic Church in Canada was erected at Port Royal, 1608.
First Anglican edifice erected in Canada, 1604, on island in Passamaquoddy Bay, N.B.
First Canadian bank—the Bank of Montreal—started 1817.
First Canadian bank note was issued by the Canada Bank, 1792.
First steam railway built in Canada in 1836.
The first steamship to cross the Atlantic was a Canadian built craft—the Royal William—in 1833.
First canals begun in 1779, past the Cedar, Cascades and Coteau Rapids of the St. Lawrence.
First railway bridge across the St. Lawrence —the Victoria—1859.
First C.P.R. train crossed from Port Moody to Cornwall, July 12, 1886.
Atlantic cable first laid to Canadian shores, August 5, 1858.
First cable message sent by Queen Victoria, August 12, 1858.

SICK ROOM RULES.

MODERN hygienic science has laid down certain well-defined rules about the care of sick that are at variance with the ideas of even a few years ago. Following is a résumé of the best thought on this important subject. The matter has been presented in abrupt sentences the better to emphasize the importance of each point. In convalescence there are many things that may tend to make the patient more comfortable, dressing sacks, bed-jackets, abundance of linen pillow slips and the like. The Singer Sewing Machine is invaluable in enabling the caretaker to make these quickly and well.

Let the room be as large, bright and well ventilated as possible.

Let it be quiet: not on a noisy thoroughfare.

Strip it of all articles of furniture not absolutely needed.

Remove carpet and hangings.

Cleanse walls, ceiling and wood work with disinfectant before moving patient in.

Keep temperature at 70 degrees.

Use but one door. Hang sheets over other doors and moisten from time to time with disinfectant.

Do not sweep the room. Use damp cloth or scrubbing brush on floor.

Do not use dust brush.

Let in all the air consistent with an even temperature.

Let in all the sunlight possible.

Air and sunlight are Nature's great disinfectants.

Change bedding frequently and wash in disinfectant solution.

To make change easy use two beds (preferably iron frames), and roll patient from one to the other.

Keep towels, napkins and bandages chemically clean by use of disinfectants.

Disinfect all dishes, cups, spoons and vessels **before leaving** the room.

Never bring food into the room until the patient is ready to eat it.

Do not allow milk or any other food to remain in the room.

Do not allow the breath of the patient to reach you.

Do not touch your lips to any dish that the patient has touched.

Do not enter the room with an empty stomach.

Never eat, or drink, in the same room with the patient.

Keep the hands clean after contact with the patient by washing in disinfectant solution.

Never touch the sick if your hands are sore or scratched. Put court plaster over the exposed parts

Keep the room free from flies and other insects and take every means to destroy all mosquitoes.

NORMAL PULSE AND TEMPERATURE

Pulse Standing.

Men, 72 to 76.
Women, 76 to 88.
Children, 90 to 120.

Lying down the pulse is about four beats slower.

Temperature.

Normal, 92 2-5 degrees Fahr.
Fever, 100 degrees.
High Fever, 104 degrees to 106 degrees.

Useful Household Remedies.

For burns, sweet oil and cotton are the standard remedies. If they are not at hand sprinkle the burned part with flour and wrap loosely with a soft cloth. Don't remove the dressing until the inflammation subsides, as it will break the new skin that is forming.

For nose bleeding, bathe the face and neck with cold water.

If an artery is severed, tie a small cord or handkerchief tightly above it.

For bilious colic, soda and ginger in hot water. It may be taken freely.

Broken limbs should be placed in natural positions and the patient kept quiet until the surgeon arrives.

Nervous spasms are usually relieved by a little salt taken in the mouth and allowed to dissolve.

Hemorrhages of the lungs or stomach are promptly checked by small doses of salt. The patient should be kept as quiet as possible.

Sleeplessness caused by too much blood in the head may be overcome by applying a cloth wet with cold water to the back of the neck.

For pains in the chest or stomach, as much Dover's powder as will lie on a silver five-cent piece.

Chloride of potash dissolved in water is a standard remedy for sore throat, particularly when the throat feels raw.

For cinders in the eye, the best way, when one is alone, is to pull the upper lid down over the under one. This increases the flow of tears and at the same time brushes with the eyelashes the interior of the lid. If the foreign substance can be seen, let some one place a silk handkerchief over a pencil and gently touch the object, which will adhere to the handkerchief. A magnet is often effective in removing metallic particles.

For freckles, two ounces of lemon juice, or half dram of powdered borax, one dram sugar; mix and let stand in glass bottle several days, then rub on the face occasionally.

TRIED AND TESTED

Every Singer Machine is tested by actual sewing at the factory; it is always ready for every kind of stitching, and will do better work and do it longer than any other, because it is of better design and construction.

ABOUT WEDDINGS.

WEDDING anniversaries, with the entertainment of guests by the happy couple and the gifts from the guests, to host and hostess, are a recognized feature of modern social life. Herewith are given the principal anniversaries, with some suggestions to hosts and to guests. When it is remembered that the Singer Sewing Machine can be used on every fabric from tissue paper to leather it will be seen how useful it becomes in the celebration of these pleasant events.

FIRST ANNIVERSARY. COTTON.

Invitations may be sent on hemstitched French nainsook, folded like note paper and written upon in indelible ink. The date of the ceremony and the anniversary date should be written at the top.

Cotton batting forms a snowy, soft decoration for the table, and the use of cotton-balls offers practically unlimited possibilities for dainty effects in the dining and reception rooms.

Gifts.—Cotton fabrics are manufactured in such variety at the present day and their designs and weaves are of such beauty that it is only necessary to say that any article for boudoir, dining room or nursery is appropriate as a present.

SECOND ANNIVERSARY. PAPER.

A paper gown, modeled after the latest Paris mode and simulating the most expensive materials, is within the range of the ingenious bride-of-two-years who owns a Singer Machine.

A paper table-cloth, fringed with paper lace, with paper centrepiece, makes a handsome and attractive setting for the dinner. Of course, the fairy lamps will have paper shades, and the paper decorations of the rooms may be lavish and beautiful at small cost.

Gifts.—Books, stationery, articles made of papier-maché are all proper. One of the surprises is to secure the absence of the hostess and then to paper her favorite room while she is gone.

FOURTH ANNIVERSARY. LEATHER.

Burnt leather invitations are novelties, or skiver skin, neatly stitched and lettered, will serve. Chamois may also be used, especially if the hostess has artistic ability.

Tiny leather mats of skiver skin may be used on the table, and the lamp shade may also be made of pinked skiver skin. The cards for guests at table may be of chamois or skiver.

Gifts.—"There's nothing like leather," and any and everything made of any sort of skin, from a pocket book to a riding saddle, is a suitable offering.

FIFTH ANNIVERSARY. WOODEN.

Birch bark or burnt wood for invitations. Rustic hanging baskets and flower-laden branches for decorations. A plain deal table and complete wooden service (wooden bowls and picnic plates) for the banquet.

Gifts.—A handsome Singer Machine cabinet is always acceptable. Other gifts include all that may be made of wood, from articles of utility to those that are merely luxurious.

SEVENTH ANNIVERSARY. WOOLEN.

Invitations may be worked with worsteds on canvas or Bristol-board. For the table mats outlined in crewel designs.

Gifts.—Any of the many beautiful things that may be made of fine woolen goods—dressing sack, jackets for baby, and the like. The Singer Machine is most serviceable in the furnishing of presents for the fifth anniversary.

TENTH ANNIVERSARY. TIN.

Engrave the invitations on tin. Tinware, all new, bright and glistening, will set a beautiful table. Use ordinary lettuce-driers as flower holders.

Gifts.—In making utilitarian gifts of tinware it is a pretty idea to fill the various pieces with flowers.

FIFTEENTH ANNIVERSARY. CRYSTAL.

Celluloid is the nearest that can be had to imitate glass, and, printed in gilt, it is not a bad substitute.

The table may be as elaborate as the purse permits, or as simple; for nowadays cheap glassware comes in artistic forms. Glass beads may be used for effective decoration.

Gifts.—The range is limited only by the means of the giver.

TWENTIETH ANNIVERSARY. LINEN.

Hemstitched linen (see Cotton Wedding) or linen notepaper may be used for invitations. The table arranges itself, for linen is its natural dress.

Gifts.—Any one of the many lovely things that may be made on a Singer Machine—for dress, dressing room, or table.

TWENTY-FIFTH ANNIVERSARY. SILVER.

Engraved silver invitations, or invitations enclosed in a covering of silver paper or foil. For the table, as brave a display of silver as the household affords.

Gifts.—A silver-mounted Singer Machine, or any article of sterling silver. Plated ware is not bad form if the pocket admits of nothing more expensive.

FIFTIETH ANNIVERSARY. GOLDEN.

Invitations engraved in gilt. A table decorated with every flower whose color suggests the precious metal—golden rod, daffodils, ripe wheat.

Gifts.—If the color of the article suggests gold it is enough, except for those whose means are more than usually ample.

ABOVE are the recognized anniversaries. Others sometimes observed are: Sixth, garnet; Eighth, bric-a-brac; Ninth, topaz; Thirtieth, pearl; Thirty-fifth, sapphire; Fortieth, ruby; Seventy-fifth, diamond.

THE work-basket of our grandmothers is replaced nowadays by the convenient little drawers that form part of the equipment of the Singer Sewing Machines. But their contents remain essentially the same, and each little implement and article has a bit of history attached to it. For example:

PINS. The first pin was a thorn, and certain savage tribes still use it. But as far back as the Bronze Age artificial pins were known, and many perfect examples of bronze pins have been recovered from antiquity. In 1483 pins had become so important an article of commerce that England prohibited their importation from France by special statute. These pins were made of brass or blanched iron wire. In 1626 John Tilsby established a pin-factory in Gloucestershire in which he employed 1500 hands, and in 1636 the pin-makers of London formed a corporation. In America, in 1775, a prize was offered in Carolina for native-made pins. In 1824 Lemuel Wright, an American, secured in London a patent for a pin-making machine. This marks the beginning of the present industry. It is impossible to ascertain the exact number of pins manufactured, but it is safe to say from the figures at hand that more than 100,000,000 per day is a low estimate. First quality brass pins are given away for advertising purposes at Singer stores.

NEEDLES. The needle has a prehistoric origin. The first needles were of bone, fishbone or ivory. Steel needles were first made at Nuremburg in the latter part of the XIV century. A little later Spain was famous for its needles. The Germans introduced needle manufacture into England about two centuries ago. To give some idea of the quantity of needles used it may be said that a single grinder can point 100,000 needles per day.

SEWING MACHINE NEEDLES. THE SINGER MANUFACTURING COMPANY manufactures needles for all known sewing machines. The tests of excellence of a sewing machine needle are: Shape of eye; sharpness of point, strength and finish. The eyes of the Singer needles are punched one at a time,—each one perfect and perfectly polished so as not to cut the thread. Sharpness of point is the result of special machine and hand-work. Careful inspection rejects all imperfect specimens. Finish is the best that can be obtained by means of emery and revolving brush with crocus and alcohol. A single needle passes through 30 pairs of hands before it is ready for the market. These needles, for all makes of machines, are sold at Singer stores for 5 cents the package. Postage only 1 cent additional, up to 10 packages.

SCISSORS. Scissors, practically unchanged in shape, mount back to the earliest Greek mythology. One of the Three Fates was armed with shears. Curiously enough, Milton confused the Fates with the Furies, and wrote:

"Comes the blind Fury with the abhorred
shears
And slits the thin-spun life."

It is interesting to note at what a cost of human life this useful article has been supplied to the world. Up to the year 1865 the average life of scissors grinders was 29 years,—flying particles of steel entered the lungs and caused death. These particles are now removed by suction caused by powerful exhaust fans.

COTTON. The yarn for cotton thread is first tested. Then it is wound two or three ply. After this it is twisted, first two ply and then doubled or tripled for four or six cord. Each number of yarn has its own twist, or number of turns it gets to the inch. It is then reeled into hanks and bleached. After it has been wound on large bobbins it is passed over to the "spoolers," who wind it on spools 100, 200, 300 yards. Polished thread is known as glacé. The best spools are of birch or ash, and the wood must be thoroughly seasoned. What we call a "spool of cotton" the English call "a reel of thread."

LINEN. Every housewife knows the value of linen as a thread. This is due to inherent strength of fibre. As an instance, there has been exhibited linen thread, hand-spun by an Irish woman 84 years of age, one pound of which measured 130 miles in length.

SILK. It is not generally known that silk is produced by many insects in cocoons, and the webs and nests of spiders are of silk. The only silk available for practical purposes, however, is that of the mulberry silk moth of China. The earliest date of the use of silk is 2640 B. C. The Emperor at this time was the famous Hwang-te, and his wife, the Empress Se-Ling-She, encouraged the cultivation of the mulberry moth and the reeling of silk, and, it is said, actually invented the first loom. The secret of cultivation, jealously guarded by the Chinese, was made known to the Japanese by the Koreans. The silk supply of the world comes chiefly from China, Japan, Bengal, the Levant and Piedmont.

EXPERT SEWING-MACHINE REPAIRERS

Also Sewing-Machine Oil of absolute Purity and the Best Needles and Parts for ALL MAKES OF MACHINES at Singer Stores in every city.

GIFTS FOR VARIOUS OCCASIONS.

OF Gifts in general it may be said that anything that is the handiwork of the donor has a value that no purchased present ever possesses. The Singer Sewing Machine offers the widest range to those who wish to make offerings to friends or relatives, on any and all occasions.

CHRISTMAS.

The season of all others for the making of gifts.

For Men.—Books, handkerchiefs, slippers, book rest, chamois case for glasses, purse, pipe-rack, cravats, gloves, muffler (quilted), case for cards and tickets, traveling case made of linen and rubber lined. Jewelry is to be avoided except in the case of relatives and intimate friends.

For Women.—Quilted kimonas, doileys, collars, mouchoir case, centrepiece for table, books, box for fancy work, gloves, spoons, lace, bag for fan or opera glasses, candies, books.

WEDDINGS.

(See About Weddings.)

In general, any article of personal apparel, or decoration, and anything that goes to make up a complete home. A Singer Sewing Machine is always a welcome wedding gift.

CHRISTENINGS.

A cup is the appropriate gift for a christening, but of late years the christening cup has come to include a vase, handsome pitcher, jug or any similar receptacle for fluids. Of course, a spoon engraved with the child's name may always be considered in good taste. Any article of wearing apparel for the little one is permissible. Here the Singer Sewing Machine is most serviceable.

BIRTHDAYS.

For Men.—Any one of the many useful and beautiful things that may be made on the Singer Sewing Machines—traveling cases, bath robes, sofa pillows, smoking jackets, mufflers. Books, of course.

For Women.—If a ring, or brooch, be given, it should contain the proper birthstone. The names of these stones an their symbolism follow:

Month.	Stone.	Meaning.
Jan.	Garnet	Constancy
Feb.	Amethyst	Temperance
March	Bloodstone	Wisdom
"	Hyacinth	Courage
April	Sapphire	Repentance
"	Diamond	Innocence
May	Emerald	Fidelity in Love
June	Pearl	Long Life
"	Agate	Health, Peace
July	Ruby	Vitality
Aug.	Moonstone	Felicity
"	Sardonyx	Fidelity
Sept.	Chrysolite	Joyousness
"	Sapphire	Purity, Truth
Oct.	Opal	Hope, Keen Sight and Faith
Nov.	Topaz	Friendship
Dec.	Turquoise	Prosperity, Love

A Singer Sewing Machine is an acceptable birthday gift.

COMMENCEMENT.

For Young Men.—Any of the gifts mentioned for other occasions. If the graduate is to enter a profession, let the gift be something useful to him in his chosen career. Sofa pillows and other such things for the office of a physician or lawyer, for example. These gifts should be in the proper college colors **(See Something About Colors).**

For Girls.—Books, pretty things for the boudoir, dainty articles of apparel. Unless the girl be one of very wealthy family a Singer Machine will be appreciated.

THANKSGIVING.

(See Christmas.)

EASTER.

Flowers of all kinds.

AT PARTING.

A loving cup; or something that is the work of love of the donor.

Best Sewing-Machine Needles

FOR ALL MAKES OF MACHINES

By Mail Only 20 Cents per Dozen

Postage, **one cent.** Send Coin or Stamps.

State kinds wanted.

Address in any city:—

THE SINGER MANUFACTURING CO.

OCCUPATIONS FOR WOMEN.

IT is safe to say that, with the exception of active military service, every career open to mankind is at the present day open also to women. Following is a list of some occupations peculiarly suited to womankind, with such observations as are the result of actual experience. But, when all is said, a clever woman, with a first class tool, such as the Singer Sewing Machine, need never feel the touch of poverty. Good work, done by a good sewing machine, will always command good prices. To the objection that "sewing work is poorly paid," the answer is, "much of it is poorly done."

Dressmaking.—This art is one susceptible of great possibilities. In a recent lawsuit in New York City, a dressmaker testified that her salary was $2,500 a year!

Horticulture.—A calling for which most women are fitted by taste. In one of the leading cities of this country two women started a flower store combined with tea rooms. The beauty of the flowers attracted customers to their little restaurant, and the excellence of the food served soon built up a large patronage. To-day they are dividing about $8,000 a year from their combination enterprise.

Professional Shopper, Commissioner.—Women living in cities may engage in this pursuit with little or no capital. The customers for whom they buy pay them a commission and commercial houses are only too glad to give liberal discounts to commissioners who bring to them any real volume of business.

Typewriting and Stenography. Accurate, intelligent stenographers and typewriters can always command good salaries. The great difficulty with women workers in this department is their ignorance of and indifference to matters of current interest, and their lack of general information. A bright, intelligent woman can overcome these defects by reading and observation, and such a one is sure of a permanent and lucrative post.

Parlor Lectures.—If you have studied, traveled or read, and have the faculty of expressing yourself, you may always command a living as a lecturer. Two girls, one a musician, the other a student, started some five years ago to lecture on the "Masters of Music," with illustrations on the piano They have traveled all over this country and Europe, paid all expenses and saved $1,000 a year each.

Photography.—One of the best known and highest priced photographic artists in America is a woman. She knows her business thoroughly, and recognizes that the law of success is progress.

Architecture.—This is a field eminently congenial to women. In the planning of dwellings, women know just what goes to make for comfort and convenience.

Landscape Gardening.—One of the most profitable of the various sorts of enjoyable occupations. It requires study and apprenticeship, but its rewards amply justify the necessary preparation.

Teaching.—With many women a makeshift. But as a profession it ranks high, both in dignity and emolument. You have only to think of the women presidents of women's colleges to realize this.

Law.—The paths of the law are thorny, but it is a career full of fascination for those to whom its problems are an intellectual treat.

Medicine.—There is an increasing demand for good women doctors. Women make excellent physicians, and when they walk in the front rank their fees are equal to those of the best male practitioners.

Nursing.—The trained nurse is a necessity of modern civilization. Her work is full of interest; it exercises mind and body. Its rewards are generous, both in money ways and in the sense of personal achievement.

Manicuring.—To be a good manicure means more than the possession of a set of tools and a wilingness to use them. A really competent manicure, one who understands something about the hands and the nails and the proper treatment of them, can always make a good living.

Professional Packer.—Some women have the knack of packing trunks, grips, boxes. Such women can usually turn this talent to pecuniary account by performing this operation for their less helpful neighbors. It takes some time to build up a business along this line, but it is one that is recurrent, and it requires no capital or special preparation.

Journalism.—The woman who thinks of newspaper work as a vocation should remember that "it is the business in which there is no sex." The work is hard and the pay is not large. But the life is one that is full of charm and excitement.

Advertising.—In this department of human endeavor there is plenty of room for women with quick minds, ready imagination and fertility of ideas. Some of the greatest recent successes in advertising have sprung from the brains of women.

No mention is made of the Ministry, the Stage and other callings for which individuals should have peculiar talent and fitness. The aim has been to suggest such things as may appeal to and be within the reach of the average young girl or woman.

Trotting Record Reduced One-third in a Century.

UNDER SADDLE.

1806—Yankee, at Harlem, N. Y....	2.59
1810—Boston Horse, at Philadelphia	2.48½
1834—Edwin Forrest	2.31½
1844—Lady Suffolk, 11 years old, Hoboken	2.28
1853—Highland Maid, Centreville, N. Y.....	2.27
1859—Flora Temple, 14 years old, Kalamazoo, Mich.	2.24¾

TO HIGH-WHEEL SULKY.

1867—Dexter, 9 years old, Buffalo.	2.17¼
1872—Goldsmith Maid, 15 years old, Boston	2.16¾
1873—Occident, 10 years old, Sacramento, Cal	2.16¾
1874—Goldsmith Maid, 17 years old, Boston.	2.14
1878—Rarus, 11 years old, Buffalo.	2.13¼
1879—St. Julien, 10 years old, Oakland, Cal.	2.12¾
1881—Maud S., 7 years old, Rochester	2.10¼
1884—Jay-Eye-See, 6 years old, Providence, R. I.....	2.10¾
1885—Maud S., 11 years old, Cleveland, O.....	2.08¾
1886—Sunol, 5 years old, Stockton, Cal.....	2.08¼

TO THE BICYCLE SULKY.

1892—Nancy Hanks, 5 years old, Terre Haute	2.04
1894—Alix, 6 years old, Galesburg, Ill.	2.03¾
1900—The Abbot, 7 years old, Terre Haute, Ind.....	2.03¼
1901—Cresceus, 7 years old, Columbus, O.....	2.02¼
1903—Lou Dillon, 5 years old, Readville track, Boston...	2.00

Formula for Telling a Girl's Age.

Girls of a marriageable age do not like to tell how old they are; but you can find out by following the subjoined instructions, the young lady doing the figuring: Tell her to put down the number of the month in which she was born, then to multiply it by 2, then to add 5, then to multiply it by 50, then to add her age, then to subtract 365, then to add 115, then tell her to tell you the amount she has left. The two figures to the right will tell you her age, and the remainder the month of her birth. For example, the amount is 822; she is 22 years old and was born in the eighth month (August). Try it.

The source of the simple little problem of "How old is Ann?" has been discovered, according to a Western observer. It is in an old edition of "The Scholar's Arithmetic," published at Poughkeepsie, N. Y., in 1817. Though quite as puzzling as the modern rigmarole about Mary and Ann, the old riddle was more attractively expressed, and introduced, besides, the romantic element of courtship and marriage. Here is the problem that confused the youth of Poughkeepsie and all juvenile students of mental arithmetic:

"When first the marriage knot was tied
Between my wife and me,
My age was to that of my bride
As three times three to three.
But now, when ten and half-ten years
We man and wife have been,
Her age to mine exactly bears
As eight is to sixteen.
Now tell, I pray, from what I've said,
What were our ages when we wed."

World Statistics.

At a rough calculation the population of the world is more than one billion souls. These speak some 3,064 languages and are worshippers of more than 1,100 religions. The average length of life is 33⅓ years. One-fourth of mankind die before the seventh and one-half before the seventeenth year. Only one-sixth live beyond the age of sixty. Thirty-three million die annually, 91,000 daily, 3,730 every hour, 60 every minute. While one-fourth are capable of bearing arms, only one in a thousand is naturally inclined to the profession.

London last year imported 5,600,000 frozen carcasses of lambs and sheep, and twenty-four years ago, in 1880, the import only reached 400 carcasses.

Simple Rules for Spelling.

Words ending in E drop that letter before the termination ABLE, as in move, movable; unless ending in CE or GE, when it is retained, as in change, changeable, etc.

Words of one syllable ending in a consonant, with a single vowel before it, double that consonant in derivatives; as, ship, shipping, etc. But if ending in a consonant with a double vowel before it, they do not double the consonant in derivatives; as, troop, trooper, etc.

Words of more than one syllable ending in a consonant preceded by a single vowel, and accented on the last syllable, double that consonant in derivatives; as, commit, committed; but except chagrin, chagrined.

All words of one syllable ending in L, with a single vowel before it, have LL at the close; as mill, sell.

The words foretell, distill, instill and fulfill, retain the double L of their primitives. Derivatives of dull, skill, will and full also retain the LL when the accent falls on these words; as, dullness, skillful, willful, fullness, etc.

What Causes Fires.

The annual losses by fire in the United States, which have averaged as high as $100,000,000 a year at certain periods, were attributed during a single year to the following causes, the number of fires from each cause being given: Incendiarism, 1,927; defective flues, 1,309; sparks (not from locomotives), 715; matches, 636; explosions (of lamps, etc.), 430; stoves, 429; lightning, 369; spontaneous combustion, 326; prairie and forest fires, 280; lamp and lantern accidents (other than explosions), 238; locomotive sparks, 211; cigar stubs and pipes, 203; friction, 179; gas jets, 176; engines and boilers, 150; furnaces, 135, and from firecrackers, 105.

First Iron Casting in the United States.

From the Scientific American.

What is believed to be the first iron casting made in the territory now included in the United States is preserved in Lynn, Mass. Its history is well authenticated. It is a cooking pot, weighing a little over two pounds. It was made about 1642, near Lynn, where a small blast furnace was built that year. This furnace used charcoal for fuel, with bog ore found in the meadow along the Saugus River and oyster shells as flux. The furnace was operated until 1688, with some intermissions.

How to Restore Drowning Persons.

First—Treat the patient instantly on the spot, in the open air, freely exposing the face, neck and chest to the breeze, except in severe weather.

Second—In order to clear the throat, place the patient gently on the face, with one wrist under the forehead, that all fluid, and the tongue itself, may fall forward and leave the entrance into the windpipe free.

Third—To excite respiration, turn the patient slightly on its side, and apply some irritating or stimulating agent to the nostrils, as veratrine, diluted ammonia, etc.

Fourth—Make the face warm by brisk friction; then dash cold water upon it.

Fifth—If not successful, lose no time, but, to imitate respiration, place the patient on his face, turn the body gently but completely on the side and a little beyond; then again on the face, and so alternately. Repeat this movement deliberately and perseveringly, fifteen times only in a minute. When the patient lies on the thorax, this cavity is compressed by the weight of the body and expiration takes place. When he is turned on the side this pressure is removed and inspiration occurs.

Sixth—When the prone position is resumed, make a uniform and sufficient pressure along the spine, removing the pressure immediately, before rotation to the side. (The pressure augments the expiration, the rotation commences inspiration.) Continue these measures.

Seventh—Rub the limbs upward, with firm pressure and with energy. (The object being to rid the return of venous blood to the heart.)

Eighth—Substitute for the patient's wet clothing, if possible, such other clothing as can be instantly procured, each bystander supplying a coat or cloak, etc. Meantime and from time to time, to excite inspiration, let the surface of the body be slapped briskly with the hand.

Ninth—Rub the body briskly until it is dry and warm, then dash cold water upon it and repeat the rubbing.

Avoid the immediate removal of the patient, as it involves a dangerous loss of time; also the use of bellows or any forcing instrument; also the warm bath and all rough treatment.

How to Treat Sunstroke.

Take the patient at once to a cool and shady place, but don't carry him far to a house or hospital. Loosen the clothes thoroughly about his neck and waist. Lay him down with the head a little raised. Apply wet cloths to the head, and mustard or turpentine to the calves of the legs and the soles of the feet. Give a little weak whiskey and water if he can swallow. Meanwhile let some one go for the doctor. You cannot safely do more without his advice.

Sunstroke is a sudden prostration due to long exposure to great heat, especially when much fatigued or exhausted. It commonly happens from undue exposure to the sun's rays in summer. It begins with pain in the head, or dizziness, quickly followed by loss of consciousness and complete prostration.

Irrigation Fund.

The five irrigation works, scattered through the States of Arizona, Colorado, Montana, Nevada and Wyoming, selected by the United States government, under the irrigation law passed by the last Congress, at an estimated cost of $7,000,000, to be met by the sale of lands in the States and Territories, are receiving a rapidly growing fund. The Commissioner of the General Land Office states that on Sept. 1, 1903, there was in the United States Treasury to the credit of the Reclamation Service $16,191,836. Of this amount $3,144,822 resulted from sales in 1901, and $4,585,521 from the sales of 1902. Up to Sept. 1, 1903, the year's sales amounted to $8,461,000. The amounts from States and Territories for the year were as follows: Arizona, $43,832; California, $783,349; Colorado, $510,072; Idaho $642,219; Kansas, $18,417; Montana, $552,168; Nebraska, $118,839; Nevada, $12,465; New Mexico, $150,128; North Dakota, $1,224,044; Oklahoma, $816,077; Oregon, $1,884,730; South Dakota, $239,421; Utah, $87,520; Washington, $1,099,980; Wyoming, $272,924.

Anxious Time of Eruptive and Contagious Diseases.

It will often relieve a parent's anxiety to know how long, after a child has been exposed to a contagious disease, that there is danger that the disease has been contracted. The following table gives the period of incubation, or the anxious period, of the most important diseases:

Disease.	Symptoms usually appear on	Anxious period ranges
Chicken Pox.....	14th day	10 to 18 days
Diphtheria	2d day	2 to 5 days
Measles	14th day	10 to 14 days
Mumps	19th day	16 to 24 days
Rotheln	14th day	12 to 20 days
Scarlet Fever....	4th day	1 to 7 days
Small Pox	12th day	1 to 14 days
Typhoid Fever...	21st day	1 to 28 days
Whooping Cough.	14th day	7 to 14 days

Facts for Builders.

1,000 shingles, laid 4 inches to the weather, will cover 100 sq. ft. of surface, and 5 lbs. of shingle nails will fasten them on.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered, because of the lap in the siding and matching.

1,000 laths will cover 70 yards of surface, and 11 lbs. of lath nails will nail them on. Eight bushels of good lime, 16 bushels of sand and 1 bushel of hair will make enough good mortar to plaster 100 square yards.

A cord of stone, 3 bushels of lime, and a cubic yard of sand will lay 100 cubic feet of wall.

Five courses of brick will lay 1 foot in height on a chimney, 16 bricks in a course will make a flue 4 ins. wide and 12 ins. long, and 8 bricks in a course will make a flue 8 ins. wide and 16 ins. long.

Cement 1 bushel and sand 2 bushels will cover 3½ square yards 1 inch thick, 4½ square yards ¾ inch thick, 6¾ square yards ½ inch thick; 1 bushel cement and 1 of sand will cover 2¼ square yards 1 inch thick, 3 square yards ¾ inch thick, and 4½ square yards ½ inch thick.

	Flower.	Birthstone.	Zodiacal sign.
Jan.	Mistletoe	Garnet	Aquarius
Feb.	Pine needles	Amethyst	Pisces
Mch.	Daffodil	Bloodstone	Aries
Apr.	Dandelion	Diamond	Taurus
May.	Iris	Emerald	Gemini
June.	Rose	Moss Agate	Cancer
July	Pond lily	Ruby	Leo
Aug.	Poppy	Sardonyx	Virgo
Sept.	Indian corn	Sapphire	Libra
Oct.	Maple leaf	Opal	Scorpio
Nov.	Chrysant'm	Topaz	Saggittarius
Dec.	Holly	Turquoise	Capricornus

AMERICA'S CHIEF CONTRIBUTION TO CIVILIZATION.

One of the principal causes for the general diffusion of well-being among the people of the United States is found in the wonderfully diverse uses of mechanical contrivances to take the place of manual labor. So far as men and women can substitute for the direct output of physical strength the more intelligent effort of guiding a machine, they are so far uplifted in the scale of being, because they are enabled to make their lives more interesting as well as more productive.

It is in the invention of machinery—which not only economizes, but elevates human labor—that American ingenuity excels; and the Singer Sewing-Machine is one of the most conspicuous examples of this kind of invention.

For nearly half a century it has been a most potent factor in promoting the happiness of mankind all over the world. During this time improvement in all the processes of its manufacture has been constantly carried on, until now the machine seems to have reached ultimate perfection in every detail.

Whatever brings added comfort to the matron and the maiden, whatever saves the busy housewife's time and increases her opportunities for culture, whatever lifts any of the heavy household burdens and disenthrails to any degree the women of our day, contributes an ever-augmenting influence toward the highest and best progress of the world.

And so the great importance of the sewing-machine is in its influence upon the home; in the countless hours it has added to woman's leisure for rest and refinement; in the increase of time and opportunity for that early training of children, for lack of which so many pitiful wrecks are strewed along th shores of life; in the numberless avenues it has opened for woman's employment; and in the comforts it has brought within the reach of all, which could formerly be attained only by the wealthy few.

The First Practical Sewing Machine.

The idea of sewing by machinery had been cherished for a hundred years before the first successful machine was built.

Passing the records made by Thomas Saint (A. D. 1790) and Duncan (1804), of England, Dodge (1818) and Lye (1826), of the United States, because it does not appear that either of these inventions were of practical use, we find that in 1830 Barthlemy Thimonnier patented a sewing-machine in France, which was so far successful that, in 1841, eighty of them, made of wood, were in use for sewing army clothing at a shop in Paris. They were destroyed by an ignorant and infuriated mob, just as the Jacquard loom and the Hargreaves spinning-jenny had been years before. Thimonnier escaped with his life, and again set to work. The Revolution of 1848 found him with another set of machines, capable of making two hundred stitches per minute, and sewing and embroidering any material, from muslin to leather. Again the mob defeated his project and perilled his person. He was in very straitened circumstances, and the repeated destruction of the machines, built with money solicited from his friends, wearied at last even the admirers of his genius and energy.

Several sewing-machines, having more or less merit, were constructed in the United States during the first half of the nineteenth century, the nearest approach to success, prior to 1850, having been made by Walter Hunt in 1832.

No serious attempt was made by Hunt to exploit his invention, nor was it of any benefit until Isaac M. Singer, in 1850, perfected the improvements necessary to make

Hunt's principles of real utility, and produced the first sewing-machine having any practical value.

Singer had a hard struggle at the outset; he was poor and had to contend with popular prejudice due to the previous failures of others to produce a successful working machine. Slowly he gained ground; gradually he obtained access to the public, so that by degrees his machine received a trial and was shown to successfully accomplish continuous stitching.

The leading counsel for Singer in all his early trials soon became actively interested as an equal partner in the business, he having fully comprehended at an early day the great value of the sewing-machine as a factor in the world's industrial development. The firm of I. M. Singer & Co. was now formed. Its policy always contemplated the diffusion of the business in every direction, following the most direct method of placing its products in the hands of the consumer. In 1856 it originated and inaugurated the system of selling sewing-machines on the renting or instalment plan; this method has since been extended all over the world.

By the year 1863 the annual sales of Singer machines amounted to 21,000, and agencies were established in the principal cities of the United States. In that year the copartnership of I. M. Singer & Co. was merged into an incorporated company, bearing the title of The Singer Manufacturing Company, and both the original partners retired from the active management of the business.

In four years the annual sale of Singer machines had more than doubled. In 1871 the sales amounted to 181,260 machines. In seven years more even this amount of business was nearly doubled, the number of Singer machines sold in the year 1878 being 356,432. It would seem as if the extreme limit of business must now have been reached. But still the yearly sale increased, until now (1904) three-fourths of all the sewing-machines sold throughout the world are made by The Singer Manufacturing Company, the present annual production of the Singer factories exceeding 1,500,000 machines, and the total production since 1851 exceeds 20,000,000.

The Reason Why.

There is a valid reason for everything in this world, whether we are able to find it or not; and the reason for the tremendous and constantly increasing distribution of Singer sewing-machines is easily explained.

From the very beginning there has been a constant evolution in the construction of these machines, a ceaseless attempt to enlarge their usefulness by adapting them to the performance of every stitching operation, a continuous improvement in the processes of manufacture.

The sewing-machines of The Singer Manufacturing Company comprise four distinct types for family sewing, and more than seventy distinct classes, having several hundred modifications, for manufacturing purposes, all bearing the Company's trade mark.

The machines for family sewing are so simple that a child can understand them; they are so strong that a bungler can hardly get them out of order. Every part is made with such scrupulous care from the best materials, fitted in its place with the utmost exactness, and tested and retested so many times before leaving the factory, that they never get the "fits" which try a woman's patience, destroy the fruits of her labor, and consume her time in vexing attempts to coax the machine to a proper performance of duty.

Such a high degree of mechanical perfection can only be obtained through long experience in the operation of immense factories containing tools that are peculiar to these works and are unequalled for their purposes. The various parts of Singer sewing-machines number into the thousands, but every one of the respective kinds is exactly alike; and each one, however large or small it may be, is passed, not once but several times, through the hands of skilled workmen, who examine it in the utmost detail to see that it is absolutely perfect and adapted for its purpose. The system of testing, inspecting and assembling at the Singer factories is such that it seems well nigh impossible for a Singer machine or any of its parts to leave the works in an imperfect condition.

Of course, this elaborate system of inspection and testing material increases the cost of manufacture; but it is only by the use of such means that really first-class sewing-machines can be made. Such machines excel the products of minor establishments lacking these facilities, in the same degree that the modern high-class chronometer excels the equally modern timepiece intended simply for waking the servant. The latter has no permanent value, and soon wears out; the former renders accurate service during a lifetime or more. Imitation is the sincerest flattery, and imitations of old forms of sewing-machines long since discarded by the Singer Company are made by unscrupulous persons, and put upon the market to deceive the unwary. The difference between the cost of a

high-class sewing-machine, embodying the best of materials and workmanship, and its spurious imitation, made of cheap materials in the cheapest way, is soon eaten up by the added cost of the latter for repairs and lost time in the workroom.

From Maker to User.

Singer machines cannot be bought of irresponsible dealers. The Singer Company not only manufactures but sells all of its product directly to the people through its own employes, who are everywhere at hand, ready to care for the machines. Competent teachers are furnished, to freely give careful instruction in the use of Singer machines. The Company's agents are instructed to give careful attention to all genuine Singer machines brought to their notice, no matter in what part of the world the machine may have been purchased.

A reputation based on half a century's experience, dealing directly with the women of the family all over the world, is unique, and stimulates a worthy pride. The Singer Manufacturing Company aims to maintain its well-earned reputation for fair dealing during all time. It is permanent, its salesrooms are in every city in the world, and parts and supplies for its machines can always be easily obtained. Thus it may be seen why Singer sewing-machines have the preference whenever their merits are fairly investigated.

By this sign
you may know
and will find

SINGER
STORES
everywhere.

These machines are now being sold at lower prices, quality considered, than any other. Whether you purpose the purchase of a machine or not there is much to interest most women at any Singer Store—and all are cordially invited.

For More Than Fifty Years

the SINGER has
been recognized as maintaining the

Highest Standard of Excellence

among Family Sewing-Machines.

During this period TWENTY MILLIONS have been made and sold directly from maker to user. They are never sold to dealers but a Singer Store is in your town and our direct representative is at your service.

By this sign you may know and will find

SINGER STORES everywhere.

These machines are now being sold at lower prices, quality considered, than any other. Whether you propose the purchase of a machine or not there is much to interest most women at any Singer Store—and all are cordially invited.

Singer Sewing-Machines are a product of Canadian industry, one that is rapidly increasing.

The business has outgrown the facilities of the Montreal factory and another is being erected at St. Johns, P. Q.

This will be one of the largest and best equipped sewing-machine factories in the world, such as the growth of the country will probably require.

THE FIRST SINGER A.D. 1850.